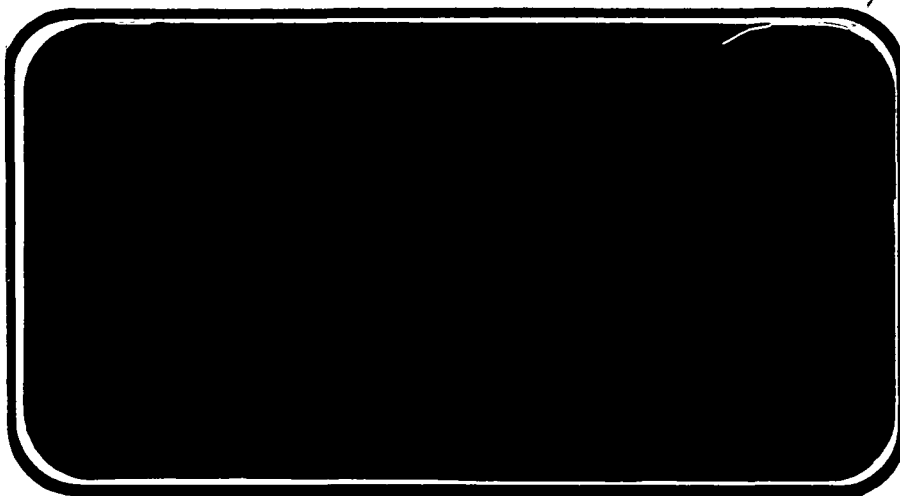




National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas 77058



(NASA-CR-151414) RESULTS OF A TEST OF A
DEVELOPMENT FLIGHT INSTRUMENTATION GAS
TEMPERATURE PROBES IN THE AMES RESEARCH
CENTER 3.5 FOOT HYPERSONIC WIND TUNNEL
(IH100) (Chrysler Corp.) 96 p

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National Technical Information Service**

N78-79474

**RESULTS OF TESTS OF A DEVELOPMENT FLIGHT
INSTRUMENTATION GAS TEMPERATURE PROBE IN THE AMES
RESEARCH CENTER 3.5 FT. HYPERSONIC WIND TUNNEL**

B. J. Herrera

Rockwell International Space Division

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WIND TUNNEL TEST SPECIFICS:

Test Number: ARC 3.5 HWT 227
NASA Series Number: IH100
Test Dates: June 20 through 23, 1977
Occupancy Hours: 32

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August 1978

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NASA CR-151,414

RESULTS OF TESTS OF A DEVELOPMENT FLIGHT
INSTRUMENTATION GAS TEMPERATURE PROBE IN THE AMES
RESEARCH CENTER 3.5 FT. HYPERSONIC WIND TUNNEL
(IH100)

by

B. J. Herrera
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Prepared under NASA Contract Number NAS9-13247

for

Data Management Services
Chrysler Corporation Michoud Defense-Space Division
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Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

3a

RESULTS OF TESTS OF A DEVELOPMENT FLIGHT
INSTRUMENTATION GAS TEMPERATURE PROBE IN THE AMES
RESEARCH CENTER 3.5 FT. HYPERSONIC WIND TUNNEL
(IH100)

by

B. J. Herrera, Rockwell International Space Division

ABSTRACT

The temperature response characteristics of a Development Flight Instrumentation (DFI) gas temperature probe were obtained in the Ames Research Center 3.5 ft. Hypersonic Wind Tunnel. Tests were conducted at Mach 7.3, total pressures of 200 psi and 100 psi, total temperatures of 1500°R and 3000°R, and various probe attitudes.

Mr. W. K. Lockman, Ames Research Center, is acknowledged for his technical assistance applicable to data and applicable to the preparation of this report.

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INTRODUCTION

The purpose of test IH100 was to obtain the temperature response characteristics of an existing Development Flight Instrumentation (DFI) gas temperature probe. This test was performed in the Ames Research Center 3.5 ft. Hypersonic Wind Tunnel at Mach 7.3.

NOMENCLATURE

<u>SYMBOL</u>	<u>DESCRIPTION</u>
Frame Time No. (Sec)	Facility timing (Sec)
Strut in Pos.	Position of strut insertion system (90.0 in. = Tunnel Q)
TTR(R)	Tunnel temperature reference in degrees Rankine
TC1	Probe center thermocouple
TC2	Probe sleeve thermocouple
PT(PSIA)	Total pressure (psia)
PT CELL 2 (PSIA)	Total pressure backup (psia)
TT(DEG R)	Tunnel temperature degrees Rankine
PROB 1	Probe/total temperature ratio $\left(\frac{\text{PROB 1}}{\text{TTR}}\right)$
PROB 2	Probe/total temperature ratio $\left(\frac{\text{PROB 2}}{\text{TTR}}\right)$

CONFIGURATIONS INVESTIGATED

The model used in test IH100 was a wedge designed to hold the gas temperature probe. This wedge was constructed of aluminum with integral water cooling passages. The probe was mounted on an aluminum carrier to which a .75-in. HRS1 tile was bonded. The sides of the tile were protected with Thermosil. The probe protruded through the tile.

INSTRUMENTATION

The probe was instrumented with two Tungsten - 5% Rhenium/Tungsten - 26% Rhenium thermocouples. One thermocouple was located inside the central shield, the other was located between the third and the central shields.

The thermocouples were referenced to a measured temperature in the tunnel injection mechanism strut. This temperature was measured with a Chromel/Alumel thermocouple referenced to 150°F.

The data were amplified, digitized and recorded on the 3.5 ft. Hypersonic Wind Tunnel Beckman data acquisition system.

TEST FACILITY DESCRIPTION

The NASA-Ames 3.5-Foot Hypersonic Wind Tunnel is a closed-circuit blowdown-type tunnel capable of operating at nominal Mach numbers of 5, 7, and 10 at pressures to 1800 psia and temperatures to 3400°R for run times to four minutes. The major components of the facility include a gas storage system where the test gas is stored at 3000 psi, a storage heater filled with aluminum-oxide pebbles capable of heating the test gas to 3400°R, axisymmetric contoured nozzles with exit diameters of 42 inches for generating the desired Mach number, and a 900,000 ft³ vacuum storage system which operates to pressures of 0.3 psia. The test section itself is an open-jet type enclosed within a chamber approximately 12 feet in diameter and 40 feet in length, arranged transversely to the flow direction.

A model support system is provided which can pitch models through an angle-of-attack range of -20 to +18 degrees, in a vertical plane, about a fixed point of rotation on the tunnel centerline. This rotation point is adjustable from 1 to 5 feet from the nozzle exit plane. The model normally is out of the test stream (strut centerline 37 inches from tunnel centerline) until the tunnel test conditions are established after which it is inserted. Insertion time is adjustable to as little as 1/2 second and models may be inserted at any strut angle.

A high-speed, analog-to-digital data acquisition system is used to record test data on magnetic tape. The present system is equipped to measure and record the outputs from 80 transducers in addition to 20 channels of tunnel parameters.

TEST PROCEDURE

The model was mounted inverted on the ARC 3.5 Hypersonic Wind Tunnel sector.

The model leading edge was water cooled using the existing water-cooling lines on the model. Installation of water lines to the model was performed by ARC personnel.

The model was injected into the tunnel after flow was established. The model remained in the tunnel flow core for a minimum of 60 seconds.

After each run, the model was allowed to cool to near ambient before inspection and/or changes were made.

Shadowgraphs were taken during most runs, and are on file at the Wind Tunnel Operations Group at Rockwell International Space Division.


DATA REDUCTION

The tunnel conditions were calculated using standard ARC programs. The thermocouple outputs were converted to engineering units using standard thermocouple tables. For each data point, the following ratio was calculated:

$$\frac{T_{meas}}{T_{total}}$$

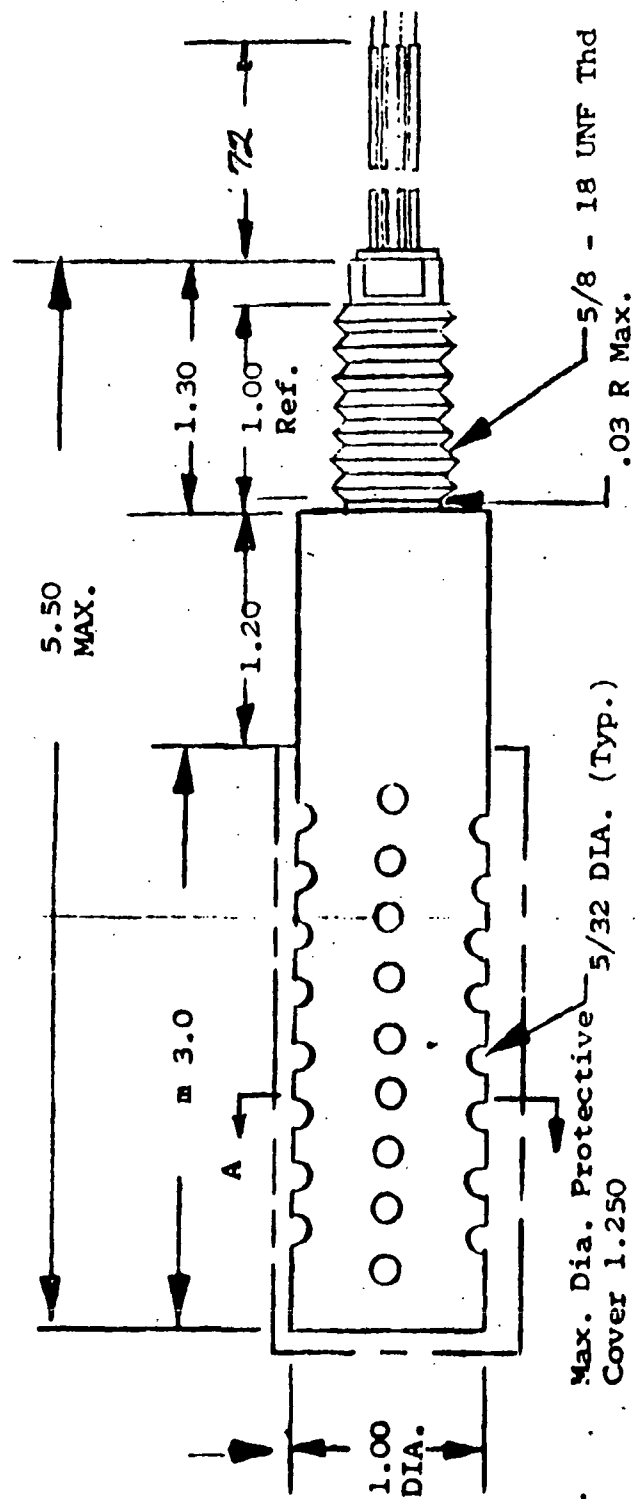
Data are presented as listings of the time - temperature and time - temperature ratio histories for both thermocouples.

TABLE I. RUN SCHEDULE AND TEST CONDITIONS

<u>RUN</u>	<u>α WEDGE</u>	<u>ψ PROBE</u>	<u>P_t</u>	<u>T_t</u>	<u>M_∞</u>
1	0	0	200	1500	7.35
2	0	0	1000	1500	
3	0	0	200	2000	
4	0	0	1000		
5	0	45	1000		
6	0	45	200		
7	0	45	200		
8	30	0	200		
9	30	0	1000		

α wedge was defined as shown in Figure 2.

ψ probe was defined as the angle between the wedge longitudinal centerline and the row of large holes on the probe outer shield, positive clockwise.



Section A-A



Figure 1. Development flight instrumentation (DPI) gas temperature probe.

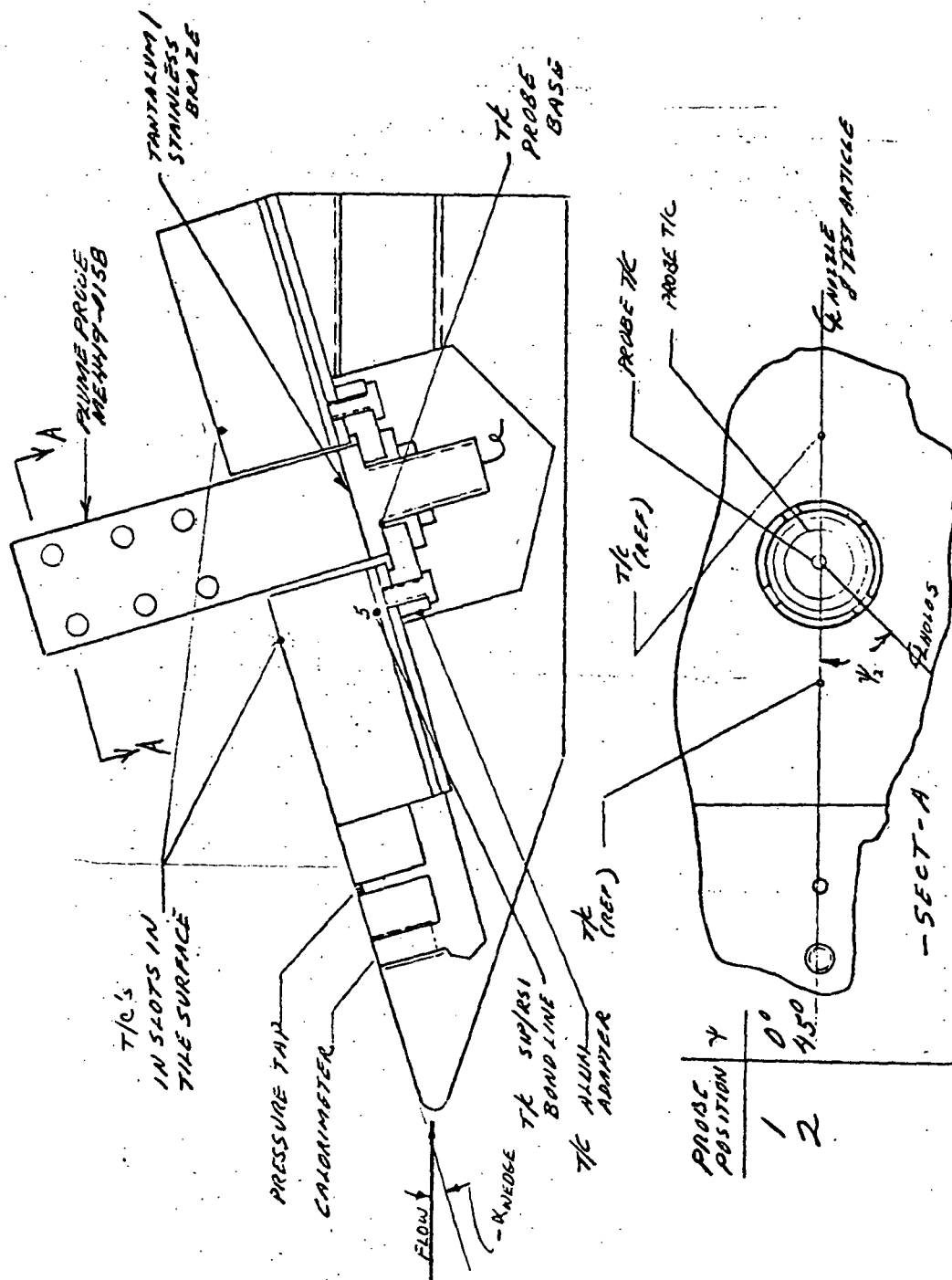


Figure 2. DFI gas temperature probe/aluminum carrier assembly.

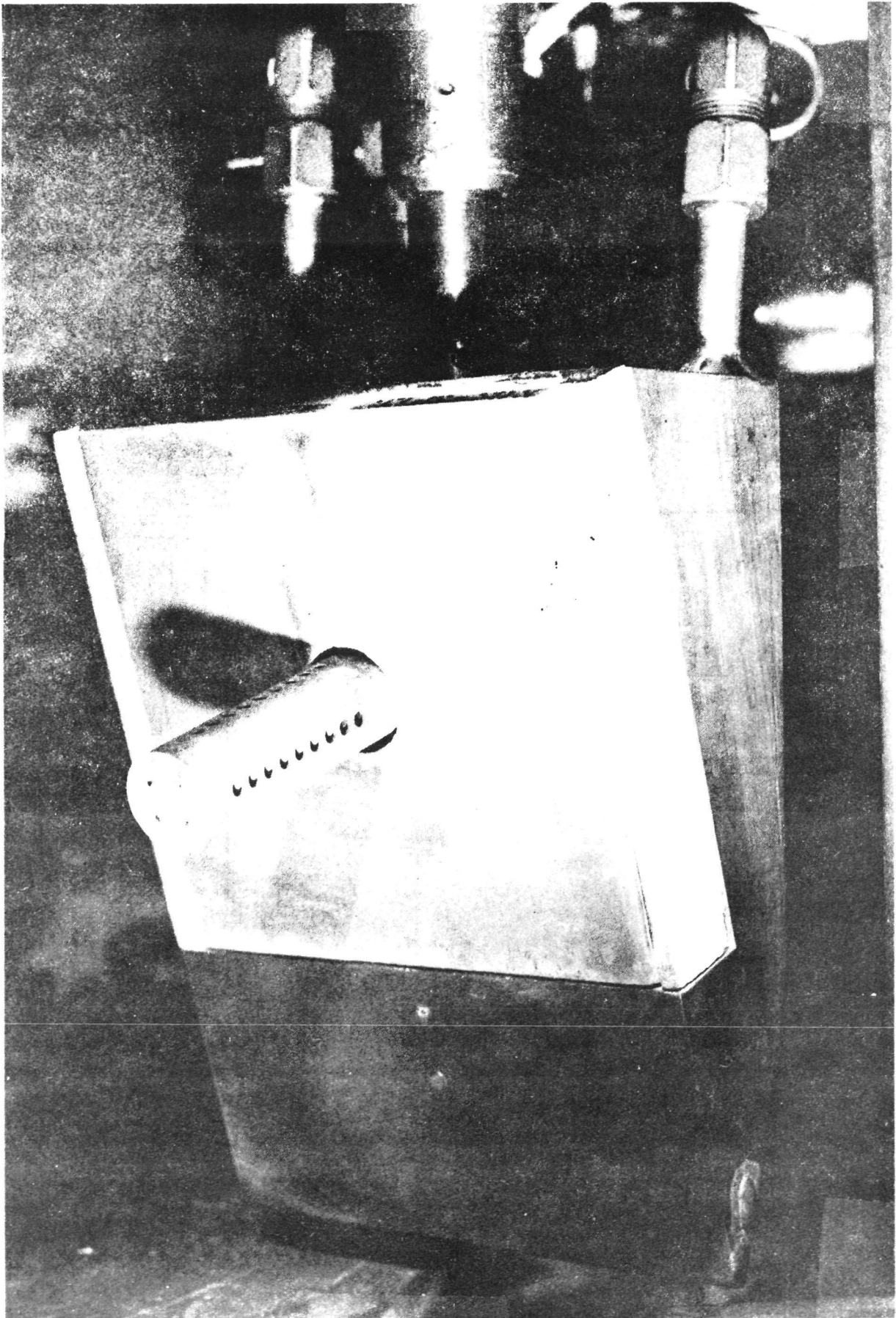


Figure 3. Test article installation photograph.

APPENDIX
TABULATED SOURCE DATA

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST-227

RUN 1/1

FRAME TIME STRUT TTP
NO. (SEC) IN PGS (R)

TC1 TC2

TEMPERATURE IN DEGREES (RANKINE)

3 .014 4.94 540.
4 .515 4.95 540.
5 1.015 4.95 540.
6 1.515 4.95 540.
7 2.015 4.95 540.
8 2.515 4.94 540.
9 3.015 4.93 540.
10 3.515 4.94 540.
11 4.015 4.94 540.
12 4.515 4.94 540.
13 5.015 47.47 540.
14 5.515 47.48 540.
15 6.015 60.46 540.
16 6.515 90.18 540.
17 7.015 90.20 540.
18 7.515 90.22 540.
19 8.015 90.25 540.
20 8.515 90.29 540.
21 9.015 90.30 540.
22 9.515 90.31 540.
23 10.015 90.34 540.
24 10.515 90.34 540.
25 11.015 90.35 540.
26 11.515 90.36 540.
27 12.015 90.34 540.
28 12.515 90.35 540.
29 13.015 90.34 540.
30 13.515 90.35 540.
31 14.015 90.33 540.
32 14.515 90.33 540.
33 15.015 90.32 540.
34 15.515 90.31 540.
35 16.015 90.32 540.
36 16.515 90.31 540.
37 17.015 90.31 540.
38 17.515 90.32 540.
39 18.015 90.31 540.
40 18.515 90.32 540.
41 19.015 90.33 540.
42 19.515 90.36 540.

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544. 634.
550. 767.
557. 876.
566. 968.
576. 1042.
588. 1106.
602. 1158.
617. 1202.
633. 1239.
649. 1273.
665. 1304.
682. 1331.
700. 1353.
716. 1372.
733. 1390.
751. 1405.
768. 1417.
785. 1427.
803. 1438.
819. 1446.
836. 1456.
853. 1464.
869. 1471.
886. 1478.
901. 1483.
917. 1486.
932. 1491.
947. 1497.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST-227
 RUN 1/2

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)
3	205.9	206.1
4	205.8	206.0
5	205.8	205.8
6	205.8	205.6
7	205.7	205.6
8	205.7	205.6
9	205.6	205.6
10	205.5	205.6
11	205.6	205.6
12	205.7	205.6
13	205.6	205.6
14	205.7	205.8
15	205.6	205.6
16	205.5	205.6
17	205.5	205.6
18	205.5	205.6
19	205.5	205.6
20	205.7	205.6
21	205.6	205.6
22	205.8	205.6
23	205.7	205.8
24	205.8	205.6
25	205.8	205.6
26	205.8	205.8
27	205.8	205.6
28	205.8	205.8
29	205.8	206.1
30	205.8	205.8
31	205.8	206.0
32	205.8	205.6
33	205.8	205.8
34	205.8	205.6
35	205.8	205.6
36	205.8	205.8
37	205.8	205.6
38	205.8	205.6
39	205.8	205.8
40	205.7	205.8
41	205.8	205.8
42	205.8	205.8

PCH II /P (DEGR)
1551.
1532.
1533.
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1567.
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1568.

PROBE / TOTAL TEMPERATURE RATIO	
PROB1	PROB2
.3542	.3549
.3536	.3542
.3534	.3541
.3532	.3537
.3529	.3534
.3529	.3535
.3526	.3530
.3522	.3528
.3520	.3525
.3517	.3523
.3511	.3517
.3507	.3511
.3513	.4088
.3544	.4942
.3584	.5639
.3641	.6230
.3709	.6706
.3780	.7105
.3867	.7437
.3962	.7715
.4060	.7953
.4160	.8163
.4264	.8355
.4367	.8518
.4475	.8654
.4584	.8777
.4693	.8896
.4800	.8985
.4913	.9060
.5019	.9121
.5128	.9185
.5235	.9240
.5339	.9298
.5448	.9352
.5551	.9397
.5655	.9435
.5753	.9465
.5851	.9486
.5944	.9514
.6038	.9547

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 2/4

FRAME TIME STRUT TTR
NO. (SEC) IN POS (R)

TEMPERATURE IN DEGREES RANKINE

TC1 TC2

43 20.015 90.36 540.
44 20.515 90.39 540.
45 21.015 90.40 540.
46 21.515 90.43 540.
47 22.015 90.45 540.
48 22.515 90.46 540.
49 23.015 90.51 540.
50 23.515 90.53 540.
51 24.015 90.54 540.
52 24.515 90.53 540.
53 25.015 90.54 540.
54 25.515 90.54 540.
55 26.015 90.52 540.
56 26.515 90.51 540.
57 27.015 90.48 540.
58 27.515 90.46 540.
59 28.015 90.43 541.
60 28.515 90.41 541.
61 29.015 90.36 541.
62 29.515 90.34 541.
63 30.015 90.32 540.
64 30.515 90.27 540.
65 31.015 90.25 540.
66 31.515 90.24 540.
67 32.015 90.20 540.
68 32.515 90.20 540.
69 33.015 90.20 540.
70 33.515 90.20 540.
71 34.015 90.20 540.
72 34.515 90.21 540.
73 35.015 90.22 540.
74 35.515 90.24 540.
75 36.015 90.25 540.
76 36.515 90.28 540.
77 37.015 90.31 540.
78 37.515 90.32 540.
79 38.015 90.36 540.
80 38.515 90.35 540.
81 39.015 90.37 540.
82 39.515 90.36 540.

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21

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 1/5

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P	TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
					PROB1 PROB2
43	205.8	205.8	1569.		.6132 .9577
44	205.8	206.1	1570.		.6219 .9601
45	205.7	205.8	1569.		.6312 .9622
46	205.8	205.8	1569.		.6402 .9647
47	205.6	206.0	1570.		.6491 .9657
48	205.6	205.6	1569.		.6575 .9683
49	205.7	205.6	1570.		.6661 .9703
50	205.7	205.6	1570.		.6742 .9726
51	205.7	205.8	1571.		.6814 .9739
52	205.7	205.8	1572.		.6888 .9750
53	205.8	205.6	1572.		.6960 .9759
54	205.7	205.6	1573.		.7032 .9766
55	205.8	206.1	1573.		.7100 .9775
56	205.7	205.6	1573.		.7172 .9776
57	205.8	205.6	1574.		.7231 .9780
58	205.8	205.8	1574.		.7296 .9784
59	205.8	206.0	1573.		.7369 .9795
60	205.8	205.9	1574.		.7423 .9796
61	205.8	206.1	1574.		.7462 .9801
62	205.8	206.0	1574.		.7536 .9811
63	205.8	206.1	1575.		.7588 .9817
64	205.8	206.2	1575.		.7644 .9831
65	205.8	205.8	1575.		.7693 .9846
66	205.8	205.8	1575.		.7743 .9860
67	205.8	205.9	1575.		.7790 .9864
68	205.8	206.0	1575.		.7836 .9865
69	205.8	205.8	1574.		.7879 .9869
70	205.8	205.8	1574.		.7921 .9875
71	205.8	205.6	1575.		.7964 .9877
72	205.8	205.6	1575.		.7997 .9883
73	205.7	205.6	1575.		.8038 .9902
74	205.7	205.6	1574.		.8079 .9918
75	205.6	205.6	1575.		.8112 .9931
76	205.6	205.6	1575.		.8147 .9931
77	205.8	205.6	1575.		.8177 .9928
78	205.7	205.6	1575.		.8210 .9930
79	205.8	205.6	1575.		.8240 .9929
80	205.8	205.8	1575.		.8272 .9929
81	205.8	206.1	1574.		.8302 .9944
82	205.8	205.8	1575.		.8328 .9947

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST-227
RUN 1/7

FRAME TIME STRUT IIR
NO. (SEC) IN POS (R)

TEMPERATURE IN DEGREES RANKINE

TC1 TC2

83 40.015 90.35 540.
84 40.515 90.36 540.
85 41.015 90.35 540.
86 41.515 90.32 540.
87 42.015 90.32 540.
88 42.515 90.31 540.
89 43.015 90.31 540.
90 43.515 90.30 540.
91 44.015 90.32 540.
92 44.515 90.31 540.
93 45.015 90.31 540.
94 45.515 90.34 540.
95 46.015 90.34 540.
96 46.515 90.35 540.
97 47.015 90.37 540.
98 47.515 90.40 540.
99 48.015 90.44 540.
100 48.515 90.46 540.
101 49.015 90.46 540.
102 49.515 90.52 540.
103 50.015 90.52 540.
104 50.515 90.52 540.
105 51.015 90.51 540.
106 51.515 90.49 540.
107 52.015 90.45 540.
108 52.515 90.38 540.
109 53.015 90.33 540.
110 53.515 90.28 540.
111 54.015 90.26 540.
112 54.515 90.22 540.
113 55.015 90.19 540.
114 55.515 90.16 540.
115 56.015 90.17 540.
116 56.515 90.17 540.
117 57.015 90.19 540.
118 57.515 90.22 540.
119 58.015 90.24 540.
120 58.515 90.27 540.
121 59.015 90.29 540.
122 59.515 90.33 540.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=C PROBE ANG=0

TSST-227
 RUN 1/8

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P	TT (DEGR)
83	205.8	205.8		1575.
84	205.8	206.1		1576.
85	205.8	206.0		1576.
86	205.8	205.8		1575.
87	205.8	206.1		1576.
88	205.8	206.1		1576.
89	205.8	205.8		1577.
90	205.8	205.6		1577.
91	205.8	205.8		1577.
92	205.8	205.8		1576.
93	205.8	206.1		1576.
94	205.8	205.6		1576.
95	205.8	205.6		1576.
96	205.8	205.8		1576.
97	205.7	205.6		1576.
98	205.8	206.0		1576.
99	205.8	206.1		1576.
100	205.7	205.8		1576.
101	205.7	205.6		1577.
102	205.6	206.1		1578.
103	205.7	206.0		1578.
104	205.6	205.8		1577.
105	205.8	205.9		1577.
106	205.8	205.6		1577.
107	205.8	205.6		1577.
108	205.7	205.8		1577.
109	205.6	205.8		1577.
110	205.8	206.0		1577.
111	205.8	205.6		1577.
112	205.7	205.6		1576.
113	205.8	205.8		1577.
114	205.8	205.6		1577.
115	205.8	206.1		1577.
116	205.8	206.0		1578.
117	205.8	206.4		1576.
118	205.8	206.1		1579.
119	205.8	205.8		1579.
120	205.8	205.6		1579.
121	205.6	205.8		1579.
122	205.7	206.0		1579.

PROBE /	TOTAL TEMPERATURE RATIO
PROB1	PROB2
.8356	.9944
.8382	.9942
.8404	.9945
.8427	.9954
.8450	.9945
.8469	.9945
.8492	.9941
.8507	.9939
.8528	.9942
.8551	.9940
.8572	.9924
.8592	.9924
.8603	.9921
.8619	.9916
.8639	.9925
.8650	.9938
.8666	.9947
.8683	.9947
.8689	.9942
.8701	.9952
.8716	.9961
.8734	.9962
.8745	.9963
.8758	.9968
.8771	.9972
.8780	.9978
.8794	.9981
.8803	.9979
.8813	.9978
.8824	.9960
.8832	.9942
.8845	.9937
.8849	.9936
.8851	.9946
.8862	.9958
.8869	.9967
.8872	.9964
.8882	.9956
.8890	.9954
.8895	.9948

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 1/10

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	TEMPERATURE IN DEGREES RANKINE	
				TC1	TC2
123	60.015	90.35	540.	1406.	1571.
124	60.515	90.36	540.	1407.	1571.
125	61.015	90.35	540.	1408.	1571.
126	61.515	90.36	540.	1409.	1571.
127	62.015	90.35	540.	1410.	1571.
128	62.515	90.34	540.	1411.	1572.
129	63.015	90.33	540.	1412.	1571.
130	63.515	90.32	540.	1414.	1571.
131	64.015	90.31	540.	1414.	1572.
132	64.515	90.32	540.	1415.	1572.
133	65.015	90.33	540.	1416.	1571.
134	65.515	90.35	540.	1417.	1572.
135	66.015	90.38	540.	1418.	1572.
136	66.515	90.41	540.	1418.	1572.
137	67.015	90.42	540.	1419.	1572.
138	67.515	90.48	540.	1419.	1572.
139	68.015	90.52	540.	1421.	1575.
140	68.515	47.65	540.	1422.	1574.
141	69.015	47.63	540.	1422.	1572.
142	69.515	4.95	540.	1422.	1567.
143	70.015	4.96	540.	1422.	1560.
144	70.515	4.95	540.	1422.	1553.
145	71.015	4.96	540.	1421.	1545.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=3

TEST-227
 RUN 1//

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P (DEGR)	TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
					PROB1 PROB2
123	205.7	205.6	1579.		.8907 .9950
124	205.6	205.6	1579.		.8912 .9949
125	205.6	205.6	1579.		.8917 .9950
126	205.7	205.8	1580.		.8915 .9942
127	205.8	205.6	1580.		.8924 .9941
128	205.7	205.8	1580.		.8930 .9946
129	205.8	205.6	1580.		.8936 .9942
130	205.7	205.6	1580.		.8947 .9945
131	205.7	205.6	1580.		.8950 .9948
132	205.7	205.8	1580.		.8953 .9946
133	205.7	205.8	1580.		.8957 .9943
134	205.8	205.6	1580.		.8971 .9949
135	205.8	205.8	1580.		.8976 .9951
136	205.8	206.1	1580.		.8975 .9948
137	205.8	206.1	1579.		.8963 .9954
138	205.8	206.1	1580.		.8985 .9951
139	205.8	206.1	1580.		.8993 .9965
140	205.8	206.2	1580.		.9000 .9967
141	205.8	206.1	1580.		.9000 .9948
142	205.9	206.4	1580.		.8999 .9914
143	205.8	206.2	1580.		.8996 .9871
144	205.9	206.5	1580.		.8999 .9830
145	206.1	206.4	1579.		.8999 .9786

A * V * E * R * A * G * E V * A * L * U * E * S
 205.8 205.8 0.00 0.00 1570. .716 .903

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.
 I I .993 .945 .945

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 10C * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 2/1

FRAME TIME STRUT TTR TEMPERATURE IN DEGREES RANKINE
 NO. (SEC) IN POS (R)

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)
3	.014	5.05	540.
4	.515	5.06	540.
5	1.015	5.05	540.
6	1.515	5.05	540.
7	2.015	48.71	540.
8	2.515	48.69	540.
9	3.015	60.38	540.
10	3.515	92.47	540.
11	4.015	92.46	540.
12	4.515	92.48	540.
13	5.015	92.47	540.
14	5.515	92.48	540.
15	6.015	92.49	540.
16	6.515	92.50	540.
17	7.015	92.53	540.
18	7.515	92.55	540.
19	8.015	92.56	540.
20	8.515	92.60	540.
21	9.015	92.65	540.
22	9.515	92.67	540.
23	10.015	92.69	540.
24	10.515	92.71	540.
25	11.015	92.74	540.
26	11.515	92.74	540.
27	12.015	92.73	540.
28	12.515	92.71	540.
29	13.015	92.68	540.
30	13.515	92.65	540.
31	14.015	92.62	540.
32	14.515	92.57	540.
33	15.015	92.53	540.
34	15.515	92.48	540.
35	16.015	92.41	540.
36	16.515	92.39	540.
37	17.015	92.34	540.
38	17.515	92.33	540.
39	18.015	92.32	540.
40	18.515	92.32	540.
41	19.015	92.31	540.
42	19.515	92.32	540.

TC1 TC2

541.	543.
541.	543.
541.	543.
541.	543.
541.	543.
541.	547.
566.	957.
608.	1225.
657.	1364.
710.	1453.
765.	1505.
818.	1535.
871.	1555.
921.	1560.
968.	1566.
1012.	1574.
1052.	1580.
1090.	1586.
1124.	1593.
1155.	1596.
1184.	1600.
1210.	1599.
1233.	1595.
1254.	1594.
1272.	1591.
1289.	1596.
1304.	1595.
1318.	1597.
1330.	1599.
1342.	1595.
1353.	1589.
1362.	1588.
1371.	1589.
1379.	1593.
1386.	1594.
1393.	1598.
1400.	1596.
1405.	1593.
1411.	1593.
1416.	1593.

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P	TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
					PROB1	PROB2
3	1003.9	1005.2		1606.	.3366	.3382
4	1004.3	1005.2		1606.	.3367	.3331
5	1004.3	1005.2		1606.	.3367	.3381
6	1004.4	1005.2		1606.	.3368	.3392
7	1004.3	1005.1		1605.	.3372	.3383
8	1004.1	1005.0		1607.	.3366	.3401
9	1003.9	1005.1		1606.	.3523	.5954
10	1003.7	1005.0		1607.	.3782	.7620
11	1003.7	1005.0		1606.	.4089	.8489
12	1003.5	1005.0		1607.	.4418	.9043
13	1003.8	1004.9		1607.	.4758	.9362
14	1003.7	1004.9		1608.	.5089	.9547
15	1003.5	1004.9		1607.	.5417	.9644
16	1003.7	1004.9		1607.	.5732	.9707
17	1003.7	1004.9		1606.	.6024	.9749
18	1003.8	1004.9		1606.	.6301	.9801
19	1004.0	1004.9		1606.	.6552	.9839
20	1004.2	1004.9		1606.	.6787	.9879
21	1004.2	1004.9		1607.	.6993	.9911
22	1004.3	1004.9		1608.	.7187	.9924
23	1004.2	1004.9		1609.	.7356	.9941
24	1004.1	1004.8		1610.	.7515	.9936
25	1004.1	1004.8		1608.	.7665	.9921
26	1004.1	1004.8		1607.	.7801	.9917
27	1004.1	1004.8		1607.	.7916	.9903
28	1003.9	1004.8		1607.	.8021	.9932
29	1003.7	1004.7		1607.	.8112	.9921
30	1003.2	1004.7		1607.	.8201	.9938
31	1003.7	1004.7		1507.	.8278	.9950
32	1003.3	1004.7		1607.	.8355	.9931
33	1003.7	1004.7		1606.	.8420	.9892
34	1003.9	1004.7		1606.	.8483	.9888
35	1004.0	1004.7		1605.	.8540	.9902
36	1003.7	1004.7		1604.	.8596	.9935
37	1003.7	1004.7		1603.	.8645	.9940
38	1003.8	1004.6		1603.	.8692	.9971
39	1003.4	1004.6		1602.	.8735	.9963
40	1004.0	1004.6		1603.	.8760	.9939
41	1004.0	1004.6		1605.	.8788	.9923
42	1004.0	1004.6		1607.	.8810	.9894

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 2/4

FRAME TIME STRUT TTR TEMPERATURE IN DEGREES RANKINE
 NO. (SEC) IN POS (R)

43 20.015 92.34 540.
 44 20.515 92.37 540.
 45 21.015 92.42 540.
 46 21.515 92.45 540.
 47 22.015 92.48 540.
 48 22.515 92.51 540.
 49 23.015 92.53 540.
 50 23.515 92.56 540.
 51 24.015 92.55 540.
 52 24.515 92.56 540.
 53 25.015 92.55 540.
 54 25.515 92.54 540.
 55 26.015 92.52 540.
 56 26.515 92.53 540.
 57 27.015 92.51 540.
 58 27.515 92.50 540.
 59 28.015 92.50 540.
 60 28.515 92.48 540.
 61 29.015 92.49 540.
 62 29.515 92.47 540.
 63 30.015 92.48 540.
 64 30.515 92.48 540.
 65 31.015 92.48 540.
 66 31.515 92.50 540.
 67 32.015 92.52 540.
 68 32.515 92.54 540.
 69 33.015 92.56 540.
 70 33.515 92.59 540.
 71 34.015 92.61 540.
 72 34.515 92.66 540.
 73 35.015 92.67 540.
 74 35.515 92.70 540.
 75 36.015 92.73 540.
 76 36.515 92.75 540.
 77 37.015 92.76 540.
 78 37.515 92.75 540.
 79 38.015 92.74 540.
 80 38.515 92.72 540.
 81 39.015 92.67 540.
 82 39.515 92.62 540.

TC1 TC2

1419. 1590.
 1424. 1593.
 1428. 1593.
 1432. 1591.
 1435. 1591.
 1438. 1592.
 1442. 1592.
 1445. 1589.
 1447. 1590.
 1449. 1589.
 1452. 1588.
 1454. 1581.
 1455. 1577.
 1456. 1576.
 1458. 1578.
 1460. 1579.
 1461. 1579.
 1463. 1578.
 1464. 1577.
 1465. 1578.
 1467. 1580.
 1469. 1580.
 1470. 1578.
 1471. 1574.
 1472. 1573.
 1473. 1577.
 1475. 1577.
 1475. 1572.
 1476. 1570.
 1477. 1572.
 1478. 1572.
 1479. 1573.
 1480. 1571.
 1481. 1573.
 1482. 1568.
 1482. 1566.
 1483. 1565.
 1483. 1566.
 1483. 1565.
 1484. 1567.

OF
 QUALITY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 2/5

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P (DEGR)	TT (DEGR)
43	1003.9	1004.6		1606.
44	1003.8	1004.6		1605.
45	1003.6	1004.6		1603.
46	1003.2	1004.5		1602.
47	1002.5	1004.6		1603.
48	1002.5	1004.5		1602.
49	1002.5	1004.5		1602.
50	1002.8	1004.5		1603.
51	1003.4	1004.4		1602.
52	1004.0	1004.5		1601.
53	1003.9	1004.5		1600.
54	1004.1	1004.5		1599.
55	1004.1	1004.5		1597.
56	1004.2	1004.5		1598.
57	1004.2	1004.4		1597.
58	1004.3	1004.4		1599.
59	1004.3	1004.4		1600.
60	1004.0	1004.4		1601.
61	1003.8	1004.5		1601.
62	1003.9	1004.4		1600.
63	1003.5	1004.4		1601.
64	1003.4	1004.4		1600.
65	1003.3	1004.4		1601.
66	1004.1	1004.4		1600.
67	1004.0	1004.4		1599.
68	1003.9	1004.4		1598.
69	1003.9	1004.4		1595.
70	1003.7	1004.3		1595.
71	1003.7	1004.3		1595.
72	1003.7	1004.3		1595.
73	1003.4	1004.4		1594.
74	1003.0	1004.4		1595.
75	1002.9	1004.3		1595.
76	1003.7	1004.1		1593.
77	1003.8	1004.3		1593.
78	1004.2	1004.2		1593.
79	1004.2	1004.1		1593.
80	1004.3	1004.2		1593.
81	1004.2	1004.3		1593.
82	1004.1	1004.2		1593.

PROBE / TOTAL TEMPERATURE RATIO	
PROB1	PROB2
.8837	.9902
.8873	.9929
.8906	.9939
.8938	.9932
.8954	.9931
.8978	.9938
.8999	.9939
.9013	.9913
.9033	.9923
.9051	.9920
.9074	.9925
.9093	.9891
.9113	.9872
.9117	.9864
.9129	.9879
.9132	.9880
.9130	.9871
.9137	.9858
.9144	.9851
.9155	.9857
.9166	.9870
.9176	.9873
.9182	.9856
.9192	.9839
.9202	.9836
.9222	.9870
.9243	.9838
.9248	.9853
.9257	.9848
.9254	.9856
.9271	.9837
.9272	.9873
.9278	.9854
.9299	.9856
.9301	.9841
.9303	.9831
.9306	.9825
.9307	.9832
.9313	.9829
.9315	.9837

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 2/7

FRAME TIME STRUT TTR
NO. (SEC) IN POS (R)

TC1 TC2

TEMPERATURE IN DEGREES RANKINE

83	40.615	92.61	540.
84	40.515	92.56	540.
85	41.015	92.52	540.
86	41.515	92.48	540.
87	42.015	92.45	540.
88	42.515	92.41	540.
89	43.015	92.38	540.
90	43.515	92.36	540.
91	44.015	92.34	541.
92	44.515	92.34	541.
93	45.015	92.32	541.
94	45.515	92.34	541.
95	46.015	92.37	541.
96	46.515	92.39	541.
97	47.015	92.42	541.
98	47.515	92.46	541.
99	48.015	92.51	541.
100	48.515	92.53	541.
101	49.015	92.56	541.
102	49.515	92.56	541.
103	50.015	92.55	541.
104	50.515	92.53	541.
105	51.015	92.51	541.
106	51.515	92.50	541.
107	52.015	92.49	541.
108	52.515	92.47	541.
109	53.015	92.45	541.
110	53.515	92.47	541.
111	54.015	92.47	541.
112	54.515	92.46	541.
113	55.015	92.49	541.
114	55.515	92.52	541.
115	56.015	92.53	541.
116	56.515	92.56	541.
117	57.015	92.61	541.
118	57.515	92.65	541.
119	58.015	92.68	541.
120	58.515	92.71	541.
121	59.015	92.73	541.
122	59.515	92.72	541.

1485.	1569.
1486.	1569.
1486.	1573.
1487.	1574.
1489.	1571.
1490.	1573.
1490.	1573.
1491.	1569.
1491.	1568.
1493.	1573.
1494.	1572.
1494.	1568.
1494.	1564.
1494.	1562.
1495.	1567.
1496.	1568.
1497.	1573.
1498.	1569.
1498.	1573.
1499.	1572.
1500.	1571.
1500.	1563.
1501.	1567.
1501.	1563.
1501.	1564.
1502.	1565.
1502.	1568.
1502.	1569.
1503.	1569.
1504.	1569.
1505.	1563.
1505.	1569.
1505.	1568.
1506.	1569.
1507.	1570.
1508.	1571.
1508.	1569.
1508.	1563.
1508.	1555.
1507.	1555.

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3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0

PROBE ANG=0

TEST 227

RUN 2/8

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
83	1004.2	1004.3	1593.	.9322	.9849
84	1004.3	1004.3	1593.	.9326	.9850
85	1004.5	1004.2	1594.	.9327	.9853
86	1004.4	1004.1	1593.	.9339	.9881
87	1004.4	1004.3	1592.	.9351	.9857
88	1004.0	1004.1	1592.	.9355	.9857
89	1003.9	1003.9	1593.	.9357	.9859
90	1003.4	1004.1	1593.	.9361	.9855
91	1002.9	1004.1	1593.	.9360	.9844
92	1003.3	1004.2	1593.	.9372	.9858
93	1002.5	1003.9	1592.	.9385	.9878
94	1003.3	1004.0	1590.	.9394	.9858
95	1003.4	1003.9	1590.	.9398	.9838
96	1003.8	1004.0	1590.	.9398	.9821
97	1002.5	1004.1	1590.	.9405	.9857
98	1003.8	1003.9	1590.	.9412	.9864
99	1003.5	1003.9	1590.	.9415	.9877
100	1003.8	1003.9	1592.	.9410	.9838
101	1004.0	1003.9	1592.	.9409	.9876
102	1004.0	1003.7	1593.	.9410	.9868
103	1004.2	1003.7	1592.	.9424	.9859
104	1004.1	1003.7	1591.	.9432	.9857
105	1004.1	1003.9	1591.	.9437	.9851
106	1004.1	1003.7	1590.	.9443	.9816
107	1004.0	1003.7	1590.	.9443	.9833
108	1004.0	1003.7	1588.	.9453	.9852
109	1004.1	1003.7	1588.	.9456	.9873
110	1004.2	1003.7	1589.	.9454	.9874
111	1004.2	1003.7	1585.	.9456	.9872
112	1003.9	1003.7	1588.	.9473	.9882
113	1003.8	1003.7	1589.	.9469	.9868
114	1003.9	1003.7	1588.	.9476	.9875
115	1003.9	1003.7	1588.	.9479	.9873
116	1004.0	1003.7	1588.	.9481	.9878
117	1003.9	1003.7	1587.	.9494	.9875
118	1003.9	1003.7	1597.	.9499	.9898
119	1004.1	1003.6	1588.	.9496	.9880
120	1004.0	1003.6	1588.	.9496	.9843
121	1004.1	1003.6	1589.	.9493	.9791
122	1004.1	1003.6	1588.	.9493	.9796

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 2/10

FRAME NO.	TIME (SEC)	STRT IN POS	TTR (R)	TC1	TC2	TEMPERATURE IN DEGREES RANKINE
123	60.015	92.70	541.	1537.	1557.	
124	60.515	92.67	541.	1507.	1558.	
125	61.015	92.64	541.	1507.	1564.	
126	61.515	92.60	542.	1538.	1566.	
127	62.015	92.55	542.	1508.	1562.	
128	62.515	92.49	542.	1538.	1562.	
129	63.015	92.46	542.	1538.	1566.	
130	63.515	92.41	542.	1508.	1567.	
131	64.015	92.40	542.	1539.	1567.	
132	64.515	92.35	542.	1509.	1566.	
133	65.015	92.34	542.	1510.	1562.	
134	65.515	92.32	542.	1509.	1558.	
135	66.015	49.61	542.	1509.	1562.	
136	66.515	48.62	542.	1510.	1554.	
137	67.015	5.05	542.	1539.	1547.	
138	67.515	5.06	542.	1510.	1542.	
139	68.015	5.06	542.	1539.	1538.	

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PRJBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 2/11

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P	TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
					PROB1 PROB2
123	1004.1	1003.6		1588.	.9492 .9813
124	1003.9	1003.6		1588.	.9491 .9612
125	1003.8	1003.6		1587.	.9495 .9852
126	1003.5	1003.7		1587.	.9499 .9868
127	1003.4	1003.6		1587.	.9500 .9844
128	1003.4	1003.6		1587.	.9532 .9842
129	1003.3	1003.5		1586.	.9538 .9874
130	1003.5	1003.5		1585.	.9516 .9835
131	1003.7	1003.5		1585.	.9523 .9839
132	1003.4	1003.5		1587.	.9513 .9869
133	1002.9	1003.6		1587.	.9511 .9841
134	1003.3	1003.6		1586.	.9520 .9827
135	1003.8	1003.6		1585.	.9526 .9859
136	1004.2	1003.6		1585.	.9525 .9804
137	1004.4	1003.6		1583.	.9531 .9769
138	1004.1	1003.4		1583.	.9538 .9745
139	1003.9	1003.5		1584.	.9532 .9713

A * V * E * R * A * G * E V * A * L * U * E * S
 1003.8 1004.3 C.CD C.00 1597. .852 .952

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.
 C.CCD 0.000 .983 .967 .967

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

9.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 3/1

FRAME TIME STRUT TTR TEMPERATURE IN DEGREES RANKINE
NO. (SEC) IN POS (R) TC1 TC2

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0.015	5.07	546.	551.	553.
.515	5.06	546.	551.	553.
1.015	5.06	546.	550.	554.
1.515	5.06	546.	551.	553.
2.015	5.07	546.	551.	553.
2.515	5.07	546.	551.	553.
3.015	48.81	546.	550.	553.
3.515	48.81	546.	552.	599.
4.015	92.67	546.	556.	775.
4.515	92.70	546.	564.	930.
5.015	92.71	546.	575.	1073.
5.515	92.73	546.	590.	1193.
6.015	92.75	546.	608.	1291.
6.515	92.77	546.	626.	1365.
7.015	92.81	546.	647.	1431.
7.515	92.82	546.	657.	1481.
8.015	92.84	546.	689.	1523.
8.515	92.87	546.	712.	1557.
9.015	92.88	546.	736.	1585.
9.515	92.88	546.	750.	1614.
10.015	92.89	546.	784.	1638.
10.515	92.88	546.	809.	1658.
11.015	92.86	546.	834.	1675.
11.515	92.85	546.	859.	1689.
12.015	92.85	546.	883.	1704.
12.515	92.82	546.	908.	1718.
13.015	92.79	546.	932.	1729.
13.515	92.77	546.	956.	1738.
14.015	92.73	546.	979.	1745.
14.515	92.70	546.	1002.	1752.
15.015	92.66	546.	1024.	1759.
15.515	92.65	546.	1046.	1764.
16.015	92.60	546.	1058.	1772.
16.515	92.57	546.	1090.	1781.
17.015	92.55	546.	1112.	1792.
17.515	92.52	546.	1134.	1800.
18.015	92.51	546.	1156.	1808.
18.515	92.48	546.	1177.	1813.
19.015	92.48	546.	1198.	1815.
19.515	92.44	546.	1219.	1815.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 3/2

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT (P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
				PROB1 PROB2
3	206.2	206.3	1853.	.2972 .2986
4	206.2	206.5	1855.	.2969 .2984
5	206.1	206.2	1855.	.2968 .2985
6	206.1	206.5	1855.	.2969 .2983
7	205.9	206.3	1856.	.2966 .2982
8	206.1	206.2	1856.	.2968 .2982
9	206.1	206.2	1857.	.2964 .2980
10	206.1	206.3	1857.	.2972 .3224
11	206.1	206.3	1860.	.2989 .4168
12	206.2	206.4	1863.	.3030 .4992
13	206.2	206.5	1867.	.3080 .5749
14	206.2	206.6	1871.	.3153 .6380
15	206.2	206.5	1874.	.3243 .6888
16	206.2	206.6	1875.	.3340 .7283
17	206.2	206.4	1878.	.3446 .7615
18	206.2	206.4	1880.	.3549 .7877
19	206.2	206.6	1882.	.3663 .8295
20	206.2	206.6	1883.	.3783 .8268
21	206.2	206.6	1886.	.3921 .8412
22	206.2	206.6	1888.	.4025 .8549
23	206.2	206.7	1888.	.4151 .8672
24	206.2	206.4	1890.	.4280 .8776
25	206.2	206.3	1892.	.4405 .8849
26	206.2	206.5	1895.	.4530 .8914
27	206.2	206.4	1897.	.4655 .8984
28	206.2	206.3	1899.	.4790 .9048
29	206.2	206.5	1900.	.4906 .9100
30	206.2	206.3	1903.	.5023 .9133
31	206.1	206.3	1903.	.5145 .9168
32	205.9	206.2	1904.	.5264 .9202
33	205.9	206.2	1904.	.5378 .9236
34	205.9	206.1	1905.	.5492 .9260
35	206.1	206.2	1907.	.5604 .9292
36	206.1	206.2	1907.	.5715 .9338
37	206.2	206.4	1907.	.5832 .9387
38	206.2	206.4	1907.	.5946 .9437
39	206.2	206.5	1907.	.6059 .9478
40	206.2	206.7	1908.	.6167 .9500
41	206.2	206.7	1908.	.6277 .9510
42	206.2	206.4	1909.	.6382 .9507

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

9.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 3/4

FRAME TIME STRUT TTR
NO. (SEC) IN POS (R)

TEMPERATURE IN DEGREES RANKINE

TC1 TC2

43 20.015 92.43 546.
44 20.515 92.45 546.
45 21.015 92.46 547.
46 21.515 92.47 547.
47 22.015 92.49 547.
48 22.515 92.51 547.
49 23.015 92.53 547.
50 23.515 92.55 547.
51 24.015 92.57 546.
52 24.515 92.61 547.
53 25.015 92.64 547.
54 25.515 92.66 547.
55 26.015 92.68 547.
56 26.515 92.69 547.
57 27.015 92.69 547.
58 27.515 92.70 547.
59 28.015 92.68 547.
60 28.515 92.67 547.
61 29.015 92.66 547.
62 29.515 92.65 547.
63 30.015 92.64 547.
64 30.515 92.63 547.
65 31.015 92.63 547.
66 31.515 92.61 547.
67 32.015 92.61 547.
68 32.515 92.60 547.
69 33.015 92.61 547.
70 33.515 92.63 547.
71 34.015 92.63 547.
72 34.515 92.63 547.
73 35.015 92.66 547.
74 35.515 92.69 547.
75 36.015 92.70 547.
76 36.515 92.73 547.
77 37.015 92.76 547.
78 37.515 92.80 547.
79 38.015 92.84 547.
80 38.515 92.88 547.
81 39.015 92.89 547.
82 39.515 92.89 547.

1238. 1817.
1258. 1819.
1277. 1823.
1296. 1826.
1314. 1831.
1331. 1834.
1348. 1835.
1365. 1838.
1380. 1839.
1395. 1840.
1409. 1842.
1424. 1841.
1437. 1842.
1450. 1844.
1462. 1847.
1474. 1850.
1485. 1853.
1495. 1854.
1506. 1854.
1516. 1855.
1525. 1856.
1534. 1854.
1542. 1856.
1551. 1856.
1558. 1855.
1565. 1856.
1573. 1859.
1579. 1860.
1586. 1860.
1592. 1860.
1598. 1860.
1603. 1859.
1609. 1859.
1613. 1857.
1618. 1857.
1622. 1855.
1627. 1852.
1630. 1851.
1634. 1853.
1638. 1855.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOORETT FIELD CALIF. *** PRELIMINARY DATA ***

9.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 + GAS-TEMP-PROBE MACH NO. 7.34 WEDGE ANG. 0 PROBE ANG. 0

TEST 227

RUN 3/5

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT (P. (DEGR))	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
43	206.2	206.5	1909.	.6583	.9511
44	206.2	206.3	1909.	.6591	.9527
45	206.2	206.5	1909.	.6631	.9546
46	206.1	206.4	1909.	.6738	.9564
47	206.2	206.5	1910.	.6879	.9581
48	206.2	206.4	1910.	.6971	.9600
49	206.2	206.6	1911.	.7056	.9625
50	206.2	206.7	1911.	.7143	.9617
51	206.2	206.8	1911.	.7221	.9622
52	206.3	206.5	1911.	.7299	.9626
53	206.3	206.7	1912.	.7372	.9624
54	206.2	206.7	1913.	.7444	.9627
55	206.2	206.6	1912.	.7516	.9631
56	206.2	206.7	1912.	.7581	.9640
57	206.2	206.6	1913.	.7643	.9658
58	206.2	206.7	1913.	.7708	.9675
59	206.3	206.6	1913.	.7763	.9635
60	206.2	206.8	1914.	.7814	.9636
61	206.3	206.7	1914.	.7865	.9637
62	206.2	206.4	1914.	.7919	.9691
63	206.2	206.8	1915.	.7963	.9691
64	206.2	206.7	1916.	.8037	.9679
65	206.2	206.5	1915.	.8052	.9637
66	206.2	206.5	1916.	.8093	.9639
67	206.2	206.5	1916.	.8132	.9636
68	206.2	206.6	1916.	.8170	.9639
69	206.2	206.7	1917.	.8205	.9627
70	206.2	206.6	1918.	.8235	.9698
71	206.2	206.3	1918.	.8269	.9698
72	206.2	206.4	1918.	.8300	.9696
73	206.2	206.5	1919.	.8327	.9693
74	206.2	206.4	1919.	.8355	.9639
75	206.2	206.3	1919.	.8381	.9637
76	206.2	206.5	1919.	.8404	.9676
77	206.2	206.5	1919.	.8431	.9676
78	206.2	206.4	1919.	.8456	.9669
79	206.2	206.8	1918.	.8481	.9653
80	206.2	206.7	1918.	.8500	.9648
81	206.2	206.7	1918.	.8518	.9659
82	206.2	206.7	1918.	.8536	.9676

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT SET ICC + GAS-TEMP-PROBE MACH NO. 0.735 HEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 3/7

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	ICC1	ICC2	TEMPERATURE IN DEGREES RANKINE
83	40.015	92.88	547.	1641.	1863.	
84	40.515	92.87	547.	1644.	1863.	
85	41.015	92.83	547.	1648.	1863.	
86	41.515	92.78	547.	1650.	1864.	
87	42.015	92.74	547.	1653.	1865.	
88	42.515	92.68	547.	1656.	1867.	
89	43.015	92.65	547.	1659.	1865.	
90	43.515	92.61	547.	1662.	1865.	
91	44.015	92.58	547.	1664.	1865.	
92	44.515	92.54	547.	1667.	1865.	
93	45.015	92.51	547.	1669.	1866.	
94	45.515	92.50	547.	1671.	1867.	
95	46.015	92.49	547.	1674.	1866.	
96	46.515	92.49	547.	1676.	1867.	
97	47.015	92.49	547.	1678.	1867.	
98	47.515	92.50	547.	1679.	1867.	
99	48.015	92.50	547.	1682.	1867.	
100	48.515	92.53	547.	1683.	1867.	
101	49.015	92.54	547.	1685.	1868.	
102	49.515	92.55	547.	1687.	1872.	
103	50.015	92.56	547.	1689.	1875.	
104	50.515	92.57	547.	1690.	1875.	
105	51.015	92.60	547.	1693.	1875.	
106	51.515	92.60	547.	1694.	1875.	
107	52.015	92.63	547.	1696.	1876.	
108	52.515	92.64	547.	1697.	1879.	
109	53.015	92.66	547.	1699.	1873.	
110	53.515	92.68	547.	1701.	1879.	
111	54.015	92.68	547.	1702.	1876.	
112	54.515	92.69	547.	1704.	1875.	
113	55.015	92.70	547.	1706.	1875.	
114	55.515	92.72	547.	1706.	1873.	
115	56.015	92.73	547.	1707.	1872.	
116	56.515	92.72	547.	1708.	1871.	
117	57.015	92.73	547.	1709.	1871.	
118	57.515	92.72	547.	1710.	1870.	
119	58.015	92.72	547.	1711.	1868.	
120	58.515	92.71	547.	1712.	1868.	
121	59.015	92.70	547.	1712.	1869.	
122	59.515	92.70	547.	1713.	1870.	

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INTERIOR AREA

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3-9 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 3/8

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
83	206.2	206.8	1919.	.8552	.9692
84	206.3	206.8	1920.	.8565	.9702
85	206.2	206.7	1920.	.8583	.9703
86	206.2	206.5	1920.	.8592	.9709
87	206.2	206.5	1921.	.8615	.9739
88	206.2	206.5	1921.	.8622	.9717
89	206.2	206.4	1922.	.8635	.9712
90	206.2	206.5	1922.	.8649	.9704
91	206.2	206.5	1922.	.8659	.9703
92	206.2	206.5	1922.	.8674	.9703
93	206.2	206.5	1921.	.8687	.9712
94	206.2	206.7	1922.	.8696	.9713
95	206.2	206.7	1922.	.8708	.9706
96	206.2	206.7	1923.	.8715	.9713
97	206.2	206.6	1923.	.8727	.9710
98	206.2	206.6	1923.	.8735	.9711
99	206.2	206.7	1924.	.8742	.9706
100	206.2	206.5	1924.	.8748	.9735
101	206.2	206.4	1925.	.8757	.9707
102	206.2	206.3	1924.	.8765	.9728
103	206.2	206.3	1925.	.8777	.9741
104	206.1	206.4	1926.	.8778	.9738
105	206.1	206.4	1926.	.8793	.9735
106	206.2	206.6	1926.	.8798	.9736
107	206.2	206.5	1926.	.8806	.9742
108	206.2	206.6	1928.	.8803	.9745
109	206.2	206.4	1929.	.8810	.9741
110	206.2	206.6	1928.	.8821	.9744
111	206.2	206.6	1928.	.8830	.9729
112	206.2	206.6	1928.	.8836	.9725
113	206.2	206.7	1928.	.8839	.9721
114	206.2	206.8	1929.	.8845	.9710
115	206.2	206.7	1928.	.8854	.9729
116	206.2	206.8	1928.	.8860	.9706
117	206.2	206.7	1928.	.8865	.9723
118	206.2	206.7	1928.	.8871	.9721
119	206.2	206.7	1928.	.8876	.9693
120	206.2	206.4	1928.	.8880	.9688
121	206.2	206.5	1928.	.8880	.9696
122	206.2	206.4	1928.	.8885	.9702

40

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

5.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 3/10

FRAME TIME STRUT TTR
NO. (SEC) IN POS (R)

TC1 TC2

TEMPERATURE IN DEGREES RANKINE

123	60.015	92.68	547.	1714.	1872.
124	60.515	92.68	547.	1713.	1875.
125	61.015	92.68	547.	1716.	1876.
126	61.515	92.65	547.	1716.	1876.
127	62.015	92.63	547.	1717.	1878.
128	62.515	92.63	547.	1718.	1881.
129	63.015	92.61	547.	1719.	1881.
130	63.515	92.61	547.	1720.	1880.
131	64.015	92.60	547.	1721.	1881.
132	64.515	92.61	547.	1722.	1882.
133	65.015	92.61	547.	1723.	1881.
134	65.515	92.61	547.	1723.	1881.
135	66.015	92.63	547.	1724.	1882.
136	66.515	92.64	547.	1725.	1882.
137	67.015	48.81	547.	1726.	1883.
138	67.515	5.07	547.	1725.	1876.
139	68.015	5.07	547.	1723.	1866.
140	68.515	5.07	547.	1720.	1854.

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41

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.15 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 3/11

FRAME NO.	PT CELL 2 (PSIA)	PT (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
123	206.2	206.6	1928.	.8899	.9706
124	206.2	206.6	1929.	.8893	.9722
125	206.2	206.5	1930.	.8891	.9721
126	206.3	206.5	1931.	.8889	.9716
127	206.2	206.7	1931.	.8894	.9729
128	206.2	206.6	1931.	.8899	.9739
129	206.2	206.7	1931.	.8903	.9739
130	206.2	206.7	1931.	.8903	.9734
131	206.3	206.8	1932.	.8910	.9739
132	206.2	206.7	1933.	.8908	.9734
133	206.2	206.4	1933.	.8912	.9733
134	206.2	206.7	1934.	.8910	.9728
135	206.2	206.6	1934.	.8913	.9732
136	206.2	206.6	1934.	.8923	.9732
137	206.2	206.4	1933.	.8929	.9741
138	206.1	206.5	1933.	.8923	.9704
139	206.2	206.5	1933.	.8913	.9655
140	206.2	206.7	1933.	.8899	.9591

A * V * E * R * A * G * E V * A * L * U * E * S
206.2 206.5 0.00 0.00 1911. .720 .900

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.

0.000 0.000 .972 .931 .931

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3-9 FT HYPERSONIC WIND TUNNEL

CONSTANT SET: 100 * GAS-TEMP-PR: 100 MACH NO.: 7.35 WEDGE ANG: 0 PROBE ANG: 0

TEST 227

RUN 4/1

FRAME NO.	TIME (SEC)	STRT IN PQS	TTR (R)	TC1	TC2	TEMPERATURE IN DEGREES RANKINE
3	0.014	5.07	548.	551.	555.	
4	0.515	5.06	548.	551.	555.	
5	1.015	5.07	548.	551.	556.	
6	1.515	5.08	548.	551.	556.	
7	2.015	5.07	548.	551.	556.	
8	2.515	48.71	548.	551.	556.	
9	2.015	48.71	548.	569.	929.	
10	3.515	92.50	547.	614.	1334.	
11	4.015	92.50	547.	667.	1585.	
12	4.515	92.49	547.	722.	1689.	
13	5.015	92.50	547.	785.	1763.	
14	5.515	92.50	547.	851.	1827.	
15	6.015	92.50	547.	916.	1866.	
16	6.515	92.49	547.	983.	1894.	
17	7.015	92.49	547.	1048.	1915.	
18	7.515	92.49	547.	1111.	1935.	
19	8.015	92.49	547.	1172.	1950.	
20	8.515	92.49	547.	1230.	1963.	
21	9.015	92.50	547.	1284.	1969.	
22	9.515	92.50	547.	1335.	1976.	
23	10.015	92.50	547.	1382.	1981.	
24	10.515	92.49	547.	1424.	1982.	
25	11.015	92.50	547.	1465.	1985.	
26	11.515	92.50	547.	1501.	1988.	
27	12.015	92.50	547.	1534.	1987.	
28	12.515	92.51	547.	1565.	1989.	
29	13.015	92.53	547.	1592.	1993.	
30	13.515	92.53	547.	1617.	1994.	
31	14.015	92.54	547.	1639.	1995.	
32	14.515	92.56	547.	1658.	1991.	
33	15.015	92.58	547.	1675.	1987.	
34	15.515	92.60	547.	1691.	1994.	
35	16.015	92.61	547.	1705.	1995.	
36	16.515	92.63	547.	1719.	1996.	
37	17.015	92.64	547.	1731.	1998.	
38	17.515	92.64	547.	1742.	1992.	
39	18.015	92.66	547.	1750.	1986.	
40	18.515	92.67	547.	1759.	1984.	
41	19.015	92.68	548.	1767.	1989.	
42	19.515	92.68	547.	1774.	1989.	

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOOREST FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 10.0 GAS-TEMP-PROBE MACH NO. 4.735 WEDGE ANGLE 0 PROBE ANGLE

TEST 227

RUN 4/2

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
3	996.9	1003.6	2063.	.2671	.2691
4	996.9	1003.4	2061.	.2674	.2695
5	996.9	1003.4	2058.	.2677	.2699
6	996.7	1003.4	2057.	.2679	.2702
7	996.2	1002.9	2055.	.2681	.2704
8	996.2	1002.7	2053.	.2684	.2708
9	996.2	1002.5	2052.	.2771	.4523
10	995.9	1002.3	2031.	.2994	.6604
11	995.5	1001.8	2051.	.3255	.7731
12	995.6	1001.5	2048.	.3525	.8246
13	995.5	1001.2	2047.	.3833	.8640
14	995.3	1001.5	2046.	.4159	.8933
15	995.2	1001.2	2045.	.4481	.9124
16	995.3	1001.2	2044.	.4807	.9256
17	995.3	1001.2	2044.	.5129	.9375
18	994.9	1000.8	2043.	.5439	.9472
19	994.5	1000.6	2043.	.5739	.9547
20	994.7	1000.6	2044.	.6019	.9604
21	994.5	1000.6	2044.	.6282	.9632
22	994.2	1000.6	2045.	.6529	.9664
23	994.0	1000.6	2045.	.6756	.9681
24	994.0	1000.6	2044.	.6968	.9694
25	994.7	1000.6	2043.	.7170	.9717
26	994.8	1000.6	2042.	.7351	.9737
27	994.8	1000.8	2041.	.7517	.9734
28	994.9	1000.8	2042.	.7662	.9740
29	994.9	1001.2	2042.	.7796	.9758
30	994.9	1000.8	2042.	.7917	.9765
31	995.2	1001.0	2042.	.8027	.9771
32	995.0	1001.2	2041.	.8124	.9754
33	994.8	1000.8	2040.	.8210	.9739
34	994.6	1000.8	2040.	.8238	.9772
35	994.1	1000.6	2041.	.8354	.9773
36	993.7	1000.6	2041.	.8422	.9731
37	994.0	1000.5	2041.	.8482	.9739
38	993.7	1000.6	2041.	.8536	.9761
39	993.4	1000.6	2040.	.8578	.9735
40	993.4	1000.5	2040.	.8621	.9725
41	993.7	1000.6	2040.	.8665	.9749
42	994.0	1000.6	2040.	.8694	.9746

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 200 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 4/4

FRAME TIME STRUT TTR
NO. (SEC) IN PDS (R)

TC1 TC2

TEMPERATURE IN DEGREES RANKINE

43	20.015	92.68	548.	1780.	1987.
44	20.515	92.67	547.	1786.	1991.
45	21.015	92.67	548.	1792.	1994.
46	21.515	92.66	548.	1798.	1998.
47	22.015	92.67	548.	1812.	1993.
48	22.515	92.66	548.	1809.	1994.
49	23.015	92.65	548.	1813.	1995.
50	23.515	92.65	548.	1817.	1996.
51	24.015	92.63	548.	1822.	1999.
52	24.515	92.64	548.	1826.	1996.
53	25.015	92.62	548.	1829.	1999.
54	25.515	92.62	548.	1833.	1997.
55	26.015	92.61	548.	1836.	1996.
56	26.515	92.60	548.	1839.	1993.
57	27.015	92.58	548.	1842.	1992.
58	27.515	92.58	548.	1844.	1993.
59	28.015	92.57	548.	1847.	1994.
60	28.515	92.58	548.	1849.	1996.
61	29.015	92.59	548.	1852.	1996.
62	29.515	92.58	548.	1854.	1993.
63	30.015	92.59	548.	1856.	1993.
64	30.515	92.58	546.	1856.	1994.
65	31.015	92.60	548.	1860.	1994.
66	31.515	92.61	548.	1862.	1997.
67	32.015	92.62	548.	1855.	2002.
68	32.515	92.64	548.	1867.	2003.
69	33.015	92.65	548.	1869.	2003.
70	33.515	92.67	548.	1872.	2000.
71	34.015	92.70	548.	1873.	1993.
72	34.515	92.74	548.	1875.	1991.
73	35.015	92.77	548.	1876.	1992.
74	35.515	92.79	548.	1877.	1996.
75	36.015	92.80	548.	1879.	1993.
76	36.515	92.81	548.	1880.	1992.
77	37.015	92.83	548.	1881.	1989.
78	37.515	92.84	548.	1882.	1996.
79	38.015	92.83	548.	1883.	1996.
80	38.515	92.82	546.	1884.	1995.
81	39.015	92.79	548.	1886.	1985.
82	39.515	92.78	548.	1887.	1973.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS TEMP-PT14E MACH NO. 2.35 WEDGE ANGLE 99.05 ANG. 1

TEST 227
 RUN 4/5

46<

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)
43	993.8 1000.6	
44	994.1 1000.6	
45	994.1 1000.6	
46	993.7 1000.6	
47	994.1 1000.6	
48	994.1 1000.6	
49	994.4 1000.6	
50	994.1 1000.6	
51	994.1 1000.6	
52	993.7 1000.6	
53	993.4 1000.6	
54	993.4 1000.5	
55	993.4 1000.4	
56	993.4 1000.5	
57	993.4 1000.6	
58	994.4 1000.6	
59	993.4 1000.6	
60	994.0 1000.6	
61	994.1 1000.6	
62	994.6 1000.6	
63	993.4 1000.6	
64	993.4 1000.5	
65	993.4 1000.6	
66	993.9 1000.6	
67	993.4 1000.6	
68	994.1 1000.6	
69	993.7 1000.6	
70	993.8 1000.5	
71	993.4 1000.6	
72	993.7 1000.6	
73	993.4 1000.6	
74	994.1 1000.6	
75	993.7 1000.5	
76	993.7 1000.6	
77	993.7 1000.6	
78	993.8 1000.6	
79	994.1 1000.6	
80	993.7 1000.6	
81	993.4 1000.6	
82	993.4 1000.6	

PGH TT /P (D-GR)
2041.
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2034.
2035.
2034.
2033.

PROBE / TOTAL TEMPERATURE RATIO
PROB1
PROB2
.8789 .9737
.8754 .9754
.8782 .9771
.8812 .9791
.8840 .9794
.8862 .9773
.8837 .9733
.8910 .9798
.8935 .9817
.8936 .9791
.8980 .9811
.8995 .9833
.9009 .9734
.9022 .9781
.9035 .9771
.9047 .9774
.9059 .9731
.9071 .9791
.9083 .9737
.9095 .9779
.9109 .9780
.9117 .9734
.9123 .9777
.9132 .9793
.9144 .9817
.9157 .9825
.9167 .9825
.9184 .9814
.9201 .9803
.9217 .9789
.9228 .9732
.9229 .9816
.9240 .9833
.9244 .9777
.9249 .9732
.9257 .9818
.9257 .9819
.9260 .9802
.9268 .9738
.9292 .9730

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 116 * GAS TEMP-PROBE MACH NO. 7.35 WEDGE ANG-D PROBE ANG-C

TEST 227

RUN 4/7

FRAME TIME STRUT TTR TEMPERATURE IN DEGREES RANKINE

NO. (SEC) IN POS (R)

TC1 TC2

83 40.015 92.74 548.
84 40.515 92.71 548.
85 41.015 92.69 548.
86 41.515 92.65 548.
87 42.015 92.63 548.
88 42.515 92.58 548.
89 43.015 92.58 548.
90 43.515 92.54 548.
91 44.015 92.52 548.
92 44.515 92.50 548.
93 45.015 92.48 548.
94 45.515 92.46 548.
95 46.015 92.44 548.
96 46.515 92.45 549.
97 47.015 92.44 548.
98 47.515 92.44 549.
99 48.015 92.43 549.
100 48.515 92.44 549.
101 49.015 92.44 549.
102 49.515 92.44 549.
103 50.015 92.44 549.
104 50.515 92.44 549.
105 51.015 92.45 549.
106 51.515 92.46 549.
107 52.015 92.47 549.
108 52.515 92.49 549.
109 53.015 92.51 549.
110 53.515 92.52 549.
111 54.015 92.53 549.
112 54.515 92.54 549.
113 55.015 92.56 549.
114 55.515 92.58 549.
115 56.015 92.61 549.
116 56.515 92.61 549.
117 57.015 92.64 549.
118 57.515 92.64 549.
119 58.015 92.66 549.
120 58.515 92.67 550.
121 59.015 92.67 550.
122 59.515 92.67 550.

1839. 1982.
1891. 1983.
1834. 1981.
1895. 1981.
1838. 1992.
1931. 1993.
1934. 1995.
1906. 1992.
1939. 1994.
1911. 1993.
1913. 1994.
1914. 1995.
1917. 1992.
1918. 1989.
1919. 1985.
1920. 1985.
1921. 1973.
1921. 1979.
1921. 1980.
1921. 1982.
1922. 1984.
1922. 1984.
1923. 1982.
1924. 1982.
1924. 1982.
1925. 1981.
1925. 1979.
1925. 1985.
1926. 1985.
1927. 1984.
1927. 1982.
1927. 1981.
1927. 1983.
1927. 1985.
1927. 1977.
1927. 1979.
1928. 1982.
1928. 1983.
1928. 1984.
1929. 1990.

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3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100-4 GAS-TEMP-PROBE MACH NO. 7.35 GEODE ANGLE 0 PROBE ANGLE 0

TEST 227

RUN 4/8

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT VP (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
83	993.4	1000.6	2033.	.9235	.9747
84	993.4	1000.4	2033.	.9333	.9758
85	993.2	1000.1	2033.	.9313	.9743
86	993.4	1000.3	2032.	.9325	.9747
87	993.4	1000.6	2032.	.9262	.9332
88	994.5	1000.6	2033.	.9354	.9831
89	994.9	1001.0	2033.	.9368	.9820
90	994.9	1001.2	2033.	.9374	.9793
91	994.9	1001.2	2034.	.9383	.9800
92	994.8	1001.2	2036.	.9384	.9798
93	994.6	1000.8	2036.	.9395	.9793
94	993.4	1000.6	2036.	.9401	.9797
95	993.4	1000.5	2037.	.9411	.9732
96	993.4	1000.5	2035.	.9424	.9774
97	993.4	1000.6	2032.	.9437	.9756
98	993.4	1000.6	2034.	.9442	.9762
99	993.4	1000.6	2033.	.9445	.9731
100	993.4	1000.5	2033.	.9447	.9732
101	993.4	1000.6	2033.	.9450	.9740
102	993.4	1000.6	2032.	.9454	.9751
103	993.4	1000.6	2033.	.9455	.9761
104	993.9	1000.6	2032.	.9459	.9754
105	993.8	1000.6	2033.	.9462	.9749
106	993.4	1000.5	2033.	.9463	.9748
107	994.0	1000.6	2032.	.9471	.9754
108	993.8	1000.6	2031.	.9474	.9745
109	993.9	1000.6	2030.	.9482	.9746
110	993.4	1000.6	2029.	.9485	.9732
111	993.4	1000.5	2029.	.9490	.9734
112	993.4	1000.6	2029.	.9496	.9730
113	993.4	1000.5	2029.	.9494	.9766
114	993.4	1000.4	2031.	.9489	.9754
115	993.7	1000.6	2033.	.9483	.9753
116	993.4	1000.5	2033.	.9482	.9742
117	993.4	1000.6	2032.	.9482	.9729
118	993.4	1000.6	2033.	.9481	.9736
119	993.9	1000.6	2032.	.9487	.9754
120	993.4	1000.6	2032.	.9487	.9758
121	993.8	1000.6	2032.	.9487	.9764
122	993.4	1000.5	2032.	.9494	.9736

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 8.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET: TC2 * GAS-TEMP-PROBE MAC4 NO.=7.35 WEDGE ANG=1 PROBE ANG=0

TEST 227
 RUN 6/11

FRAME NO.	TIME (SEC)	STRU IN POS	TTR (R)	TC1	TC2	TEMPERATURE IN DEGREES RANKINE
123	60.015	92.66	550.	1931.	1991.	
124	60.515	92.67	550.	1930.	1991.	
125	61.015	92.65	550.	1931.	1991.	
126	61.515	92.66	550.	1933.	1994.	
127	62.015	92.65	550.	1933.	1991.	
128	62.515	92.64	550.	1934.	1996.	
129	63.015	92.62	550.	1934.	1996.	
130	62.515	92.62	550.	1936.	1995.	
131	64.015	92.63	550.	1937.	1997.	
132	64.515	92.62	550.	1937.	1998.	
133	65.015	92.61	550.	1938.	1994.	
134	65.515	92.59	550.	1938.	1986.	
135	66.015	92.59	550.	1939.	1982.	
136	66.515	92.60	550.	1938.	1983.	
137	67.015	48.76	550.	1938.	1984.	
138	67.515	5.04	550.	1939.	1976.	
139	68.015	5.08	550.	1938.	1968.	
140	68.515	5.09	550.	1938.	1958.	
141	69.015	5.08	550.	1937.	1946.	

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5-FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG=0 PROBE ANG=

TEST 227

RUN 4/11

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT (P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
123	993.6	1000.6	2032.	.9594	.9736
124	993.4	1000.6	2032.	.9591	.9733
125	993.4	1000.6	2030.	.9512	.9805
126	993.4	1000.6	2030.	.9521	.9821
127	994.0	1000.6	2029.	.9533	.9827
128	993.8	1000.6	2029.	.9534	.9837
129	993.4	1000.6	2029.	.9535	.9840
130	993.4	1000.6	2028.	.9548	.9839
131	993.4	1000.5	2028.	.9553	.9843
132	993.6	1000.6	2029.	.9549	.9845
133	993.4	1000.6	2030.	.9543	.9822
134	993.4	1000.6	2028.	.9555	.9791
135	993.4	1000.6	2026.	.9555	.9730
136	993.7	1000.5	2026.	.9558	.9814
137	993.8	1000.6	2025.	.9570	.9737
138	993.4	1000.6	2025.	.9572	.9756
139	993.7	1000.6	2025.	.9572	.9716
140	993.4	1000.6	2024.	.9576	.9674
141	994.0	1000.6	2023.	.9578	.9621

A * V * E * R * A * G * E V * A * L * U * E * S

994.1 1000.3 G.CC 0.00 2037. .837 .935

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.

C.000 0.000 .979 .967 .967

50<

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. = 7.35 WEDGE ANGLE 7 PROBE ANGLE 3

TEST 227
RUN 5/

FRAME TIME STRUT TTP
NO. (SEC) IN PDS (R)

TEMPERATURE IN DEGREES RANKINE

TC1 TC2

3 0.014 4.95 543.
4 0.515 4.95 543.
5 1.015 4.95 543.
6 1.515 4.95 543.
7 2.015 4.95 543.
8 2.515 47.53 543.
9 3.015 47.57 543.
10 3.515 90.33 542.
11 4.015 90.38 543.
12 4.515 90.42 543.
13 5.015 90.46 543.
14 5.515 90.47 543.
15 6.015 90.51 543.
16 6.515 90.52 542.
17 7.015 90.52 543.
18 7.515 90.51 543.
19 8.015 90.51 543.
20 8.515 90.48 543.
21 9.015 90.43 543.
22 9.515 90.40 543.
23 10.015 90.38 543.
24 10.515 90.32 543.
25 11.015 90.28 543.
26 11.515 90.24 543.
27 12.015 90.24 543.
28 12.515 90.22 543.
29 13.015 90.20 543.
30 13.515 90.21 543.
31 14.015 90.20 543.
32 14.515 90.21 543.
33 15.015 90.25 543.
34 15.515 90.26 543.
35 16.015 90.31 543.
36 16.515 90.31 543.
37 17.015 90.24 543.
38 17.515 90.34 543.
39 18.015 90.35 543.
40 18.515 90.34 543.
41 19.015 90.34 543.
42 19.515 90.32 543.

542. 549.
543. 543.
543. 545.
543. 543.
543. 543.
543. 543.
544. 567.
563. 919.
596. 1147.
635. 1311.
679. 1435.
726. 1532.
774. 1605.
824. 1661.
875. 1705.
925. 1733.
975. 1765.
1024. 1783.
1071. 1811.
1117. 1824.
1151. 1833.
1202. 1842.
1242. 1850.
1278. 1855.
1313. 1857.
1345. 1857.
1375. 1858.
1403. 1861.
1429. 1858.
1453. 1851.
1475. 1862.
1496. 1863.
1514. 1862.
1531. 1864.
1547. 1862.
1561. 1862.
1574. 1865.
1587. 1863.
1599. 1863.
1610. 1863.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 123 + GAS-TEMP-PROBE MACH NO. 4.735 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 5/2

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO PRO31 PRO32
3	998.5	1002.5	1971.	.2757 .2767
4	998.5	1001.9	1966.	.2753 .2772
5	996.3	1001.4	1962.	.2770 .2778
6	995.8	1000.8	1959.	.2772 .2783
7	995.8	1000.2	1957.	.2776 .2738
8	995.6	1000.2	1954.	.2780 .2791
9	995.6	1000.0	1953.	.2785 .2332
10	995.6	999.7	1952.	.2883 .4711
11	996.0	1001.6	1951.	.3052 .5880
12	997.9	1002.5	1949.	.3256 .6723
13	999.7	1004.7	1949.	.3636 .7362
14	999.7	1005.1	1949.	.3724 .7881
15	999.7	1004.9	1949.	.3971 .8234
16	999.7	1004.9	1948.	.4231 .8527
17	999.2	1004.6	1947.	.4495 .8757
18	999.2	1004.4	1946.	.4754 .8934
19	999.2	1004.2	1945.	.5 .5 .9032
20	999.0	1003.4	1942.	.5259 .9148
21	999.0	1003.4	1943.	.5512 .9312
22	999.0	1003.0	1945.	.5749 .9389
23	998.8	1002.8	1942.	.5980 .9443
24	998.4	1002.5	1940.	.6194 .9494
25	998.4	1002.5	1940.	.6333 .9536
26	997.6	1002.5	1940.	.6591 .9566
27	998.1	1002.4	1934.	.6773 .9575
28	998.2	1002.3	1940.	.6933 .9575
29	998.1	1002.5	1939.	.7192 .9585
30	998.2	1002.5	1939.	.7236 .9593
31	998.4	1002.5	1940.	.7366 .9577
32	998.6	1002.5	1939.	.7492 .9595
33	998.3	1002.5	1940.	.7622 .9594
34	998.1	1002.5	1940.	.7708 .9603
35	998.2	1002.5	1941.	.7823 .9592
36	998.0	1002.4	1940.	.7892 .9611
37	997.9	1002.3	1940.	.7973 .9597
38	998.1	1002.5	1940.	.8045 .9594
39	998.1	1002.5	1940.	.8115 .9615
40	998.2	1002.5	1939.	.8183 .9629
41	998.2	1002.5	1940.	.8242 .9630
42	998.2	1002.5	1938.	.8306 .9637

ORIGINAL PAGE IS
OF POOR QUALITY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 8.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT S-T ACD * GAS-TEMP-EXTR. MACH NO. = 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 5/4

FRAME TIME STRUT TTR TEMPERATURE IN DEGREES RANKINE
 NO. (SEC) IN POS (R)

IC1 IC2

ORIGINAL PAGE IS
 OF POOR QUALITY

43	20.015	90.30	543.	1620.	1869.
44	20.515	90.31	543.	1628.	1871.
45	21.015	90.30	543.	1638.	1871.
46	21.515	90.29	543.	1646.	1869.
47	22.015	90.28	542.	1654.	1868.
48	22.515	90.30	543.	1661.	1871.
49	23.015	90.31	543.	1668.	1868.
50	23.515	90.32	543.	1673.	1868.
51	24.015	90.34	542.	1679.	1871.
52	24.515	90.35	543.	1685.	1873.
53	25.015	90.38	542.	1691.	1879.
54	25.515	90.45	542.	1695.	1883.
55	26.015	90.46	543.	1701.	1875.
56	26.515	90.48	543.	1705.	1872.
57	27.015	90.51	543.	1709.	1867.
58	27.515	90.50	543.	1713.	1868.
59	28.015	90.48	542.	1717.	1872.
60	28.515	90.49	543.	1721.	1875.
61	29.015	90.42	542.	1724.	1869.
62	29.515	90.38	543.	1728.	1869.
63	30.015	90.34	543.	1731.	1862.
64	30.515	90.29	542.	1732.	1853.
65	31.015	90.24	542.	1735.	1855.
66	31.515	90.21	543.	1736.	1858.
67	32.015	90.18	543.	1739.	1861.
68	32.515	90.17	543.	1740.	1862.
69	33.015	90.17	542.	1742.	1864.
70	33.515	90.18	543.	1743.	1861.
71	34.015	90.19	543.	1746.	1861.
72	34.515	90.20	543.	1747.	1867.
73	35.015	90.24	543.	1750.	1868.
74	35.515	90.29	543.	1751.	1864.
75	36.015	90.30	543.	1753.	1861.
76	36.515	90.32	543.	1754.	1864.
77	37.015	90.34	543.	1757.	1868.
78	37.515	90.33	543.	1758.	1867.
79	38.015	90.33	543.	1759.	1867.
80	38.515	90.34	543.	1761.	1866.
81	39.015	90.32	543.	1762.	1864.
82	39.515	90.30	543.	1754.	1858.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT S-T 100 * GAS-TEMP-PR18 MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 5/5

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
				PR031 PR032
43	998.2	1002.5	1938.	.8357 .9661
44	998.4	1002.5	1939.	.8397 .9650
45	998.2	1002.5	1939.	.8445 .9648
46	998.3	1002.5	1939.	.8487 .9634
47	998.3	1002.5	1939.	.8527 .9632
48	998.3	1002.5	1938.	.8572 .9659
49	998.0	1002.5	1937.	.8608 .9644
50	998.3	1002.5	1937.	.8635 .9644
51	998.2	1002.5	1937.	.8671 .9652
52	998.2	1002.5	1936.	.8703 .9685
53	998.2	1002.5	1937.	.8730 .9702
54	998.2	1002.5	1936.	.8753 .9706
55	998.1	1002.5	1936.	.8797 .9686
56	998.1	1002.5	1936.	.8828 .9671
57	998.2	1002.5	1935.	.8832 .9648
58	998.2	1002.5	1933.	.8863 .9664
59	998.2	1002.5	1932.	.8839 .9690
60	998.1	1002.5	1933.	.8902 .9697
61	998.2	1002.5	1932.	.8924 .9675
62	997.9	1002.4	1930.	.8950 .9669
63	998.2	1002.5	1930.	.8959 .9647
64	998.3	1002.5	1929.	.8979 .9631
65	998.3	1002.5	1929.	.8992 .9620
66	998.2	1002.5	1928.	.9031 .9636
67	998.2	1002.5	1927.	.9022 .9659
68	998.1	1002.5	1927.	.9029 .9663
69	998.0	1002.5	1927.	.9041 .9672
70	997.9	1002.5	1928.	.9042 .9654
71	997.9	1002.3	1927.	.9058 .9656
72	997.8	1002.3	1928.	.9064 .9633
73	997.1	1002.0	1927.	.9078 .9692
74	996.8	1001.9	1926.	.9081 .9670
75	996.3	1001.8	1927.	.9095 .9637
76	996.6	1001.8	1927.	.9103 .9675
77	997.3	1001.9	1928.	.9110 .9686
78	997.8	1002.3	1930.	.9109 .9678
79	998.0	1002.5	1930.	.9116 .9671
80	998.1	1002.5	1931.	.9120 .9663
81	998.0	1002.5	1931.	.9126 .9655
82	998.2	1002.5	1930.	.9139 .9676

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 1.00 * GAS-TEMP-2238F MACH NO.=7.55 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 5/

FRAME TIME STRUT TTP TEMPERATURE IN DEGREES RANKINE

NO. (SEC) IN POS (R)

TC1 TC2

43 40.015 90.23 549.
84 40.515 90.29 543.
85 41.015 90.28 543.
86 41.515 90.30 542.
87 42.015 90.32 542.
88 42.515 90.30 543.
89 43.015 90.35 542.
90 43.515 90.38 543.
91 44.015 90.41 542.
92 44.515 90.42 544.
93 45.015 90.47 544.
94 45.515 90.49 544.
95 46.015 90.52 544.
96 46.515 90.53 544.
97 47.015 90.51 544.
98 47.515 90.50 544.
99 48.015 90.46 544.
100 48.515 90.44 544.
101 49.015 90.42 544.
102 49.515 90.35 544.
103 50.015 90.33 544.
104 50.515 90.30 544.
105 51.015 90.25 544.
106 51.515 90.24 544.
107 52.015 90.22 544.
108 52.515 90.21 544.
109 53.015 90.19 544.
110 53.515 90.20 544.
111 54.015 90.20 544.
112 54.515 90.21 544.
113 55.015 90.21 544.
114 55.515 90.23 544.
115 56.015 90.24 544.
116 56.515 90.25 544.
117 57.015 90.29 544.
118 57.515 90.30 544.
119 58.015 90.33 544.
120 58.515 90.34 544.
121 59.015 90.33 545.
122 59.515 90.34 545.

1765. 1872.
1758. 1871.
1759. 1873.
1771. 1871.
1772. 1859.
1773. 1870.
1775. 1873.
1776. 1873.
1777. 1873.
1779. 1873.
1730. 1869.
1791. 1855.
1731. 1865.
1782. 1852.
1792. 1851.
1783. 1861.
1793. 1861.
1783. 1862.
1783. 1861.
1733. 1858.
1783. 1853.
1784. 1858.
1783. 1853.
1783. 1849.
1783. 1844.
1782. 1842.
1781. 1843.
1730. 1847.
1791. 1851.
1781. 1855.
1791. 1855.
1781. 1854.
1791. 1853.
1781. 1856.
1731. 1858.
1783. 1858.
1783. 1861.
1734. 1858.
1784. 1853.
1734. 1855.

55
A

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=3 PROBE ANG=2

TEST 227

RUN 5/8

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
83	998.3	1002.5	1929.	.9156	.9734
84	998.3	1002.5	1928.	.9166	.9734
85	998.3	1002.5	1929.	.9170	.9739
86	998.6	1002.8	1928.	.9183	.9733
87	998.8	1003.0	1928.	.9191	.9693
88	998.7	1003.0	1928.	.9197	.9731
89	998.3	1002.8	1929.	.9202	.9739
90	998.2	1002.5	1929.	.9206	.9716
91	998.1	1002.5	1929.	.9213	.9739
92	998.0	1002.5	1930.	.9220	.9705
93	997.9	1002.4	1931.	.9218	.9531
94	997.2	1002.1	1931.	.9223	.9668
95	996.8	1002.0	1929.	.9233	.9558
96	996.9	1001.9	1929.	.9241	.9651
97	996.9	1002.0	1928.	.9245	.9651
98	997.8	1002.1	1927.	.9251	.9636
99	997.3	1002.4	1928.	.9253	.9557
100	997.8	1002.2	1928.	.9249	.9639
101	997.4	1002.2	1927.	.9253	.9555
102	997.6	1002.4	1927.	.9254	.9643
103	997.6	1002.1	1926.	.9261	.9548
104	997.9	1002.2	1926.	.9257	.9643
105	997.9	1002.5	1925.	.9250	.9621
106	998.2	1002.5	1926.	.9256	.9595
107	998.3	1002.7	1927.	.9253	.9570
108	998.7	1002.8	1927.	.9245	.9536
109	998.8	1003.0	1926.	.9249	.9573
110	998.8	1003.0	1925.	.9252	.9597
111	998.8	1003.0	1924.	.9253	.9621
112	998.7	1003.0	1924.	.9254	.9641
113	998.6	1002.7	1923.	.9260	.9543
114	998.2	1002.5	1924.	.9257	.9639
115	998.2	1002.5	1922.	.9264	.9632
116	998.1	1002.5	1921.	.9270	.9639
117	997.9	1002.5	1921.	.9273	.9670
118	998.0	1002.4	1922.	.9277	.9672
119	998.0	1002.3	1920.	.9235	.9693
120	997.8	1002.4	1920.	.9291	.9630
121	997.8	1002.3	1920.	.9294	.9677
122	997.9	1002.5	1918.	.9301	.9671

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

9.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET : 1.0 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=3 PROBE ANG=0

TEST 227
RUN 5/

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	TEMPERATURE IN DEGREES RANKINE	
				TC1	TC2
123	60.015	90.35	545.	1785.	1892.
124	60.515	90.35	545.	1785.	1853.
125	61.015	90.22	545.	1786.	1856.
126	61.515	90.20	545.	1786.	1855.
127	62.015	90.30	545.	1786.	1855.
128	62.515	90.29	545.	1787.	1855.
129	63.015	90.29	545.	1787.	1856.
130	63.515	90.28	545.	1787.	1854.
131	64.015	90.28	545.	1788.	1855.
132	64.515	90.31	545.	1788.	1856.
133	65.015	90.32	545.	1788.	1862.
134	65.515	90.23	545.	1738.	1861.
135	66.015	90.36	545.	1789.	1859.
136	66.515	90.41	545.	1789.	1855.
137	67.015	90.45	545.	1789.	1852.
138	67.515	90.46	545.	1790.	1854.
139	68.015	90.51	545.	1791.	1854.
140	68.515	90.51	545.	1790.	1849.
141	69.015	90.48	545.	1791.	1849.
142	69.515	90.46	545.	1790.	1850.
143	70.015	90.39	546.	1791.	1852.
144	70.515	90.33	546.	1791.	1853.
145	71.015	90.28	546.	1791.	1852.
146	71.515	90.23	546.	1792.	1857.
147	72.015	90.18	546.	1792.	1853.
148	72.515	90.17	546.	1792.	1854.
149	73.015	90.17	546.	1792.	1853.
150	73.515	90.17	546.	1792.	1853.
151	74.015	90.19	546.	1792.	1852.
152	74.515	90.24	546.	1792.	1853.
153	75.015	90.29	546.	1792.	1851.
154	75.515	90.21	546.	1792.	1849.
155	76.015	90.33	546.	1792.	1851.
156	76.515	90.33	546.	1792.	1854.
157	77.015	90.33	546.	1792.	1853.
158	77.515	47.53	546.	1793.	1853.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION A-5 RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT S-T 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 5/11

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
123	998.1	1002.5	1917.	.9338	.9552
124	998.1	1002.5	1917.	.9310	.9573
125	997.9	1002.5	1919.	.9307	.9672
126	998.0	1002.5	1918.	.9310	.9578
127	998.3	1002.5	1917.	.9317	.9675
128	998.1	1002.5	1917.	.9319	.9676
129	998.3	1002.5	1917.	.9323	.9577
130	998.3	1002.5	1919.	.9316	.9551
131	998.3	1002.5	1918.	.9321	.9672
132	998.3	1002.5	1917.	.9327	.9682
133	998.6	1002.8	1917.	.9327	.9711
134	998.3	1002.5	1917.	.9327	.9739
135	998.3	1002.5	1917.	.9335	.9739
136	998.2	1002.5	1915.	.9344	.9638
137	997.9	1002.5	1915.	.9345	.9671
138	998.0	1002.5	1916.	.9342	.9677
139	997.8	1002.5	1917.	.9341	.9671
140	998.0	1002.4	1917.	.9337	.9646
141	997.9	1002.4	1917.	.9343	.9642
142	997.6	1002.4	1917.	.9336	.9652
143	997.6	1002.3	1917.	.9339	.9673
144	997.8	1002.3	1917.	.9345	.9577
145	997.6	1002.5	1916.	.9352	.9735
146	997.9	1002.5	1916.	.9354	.9695
147	997.9	1002.4	1916.	.9353	.9672
148	997.8	1002.5	1916.	.9353	.9678
149	998.0	1002.5	1916.	.9352	.9658
150	998.2	1002.5	1916.	.9351	.9659
151	998.0	1002.5	1916.	.9353	.9664
152	998.1	1002.5	1918.	.9346	.9661
153	998.0	1002.5	1917.	.9349	.9643
154	997.9	1002.5	1916.	.9352	.9546
155	997.9	1002.5	1917.	.9348	.9536
156	997.9	1002.5	1917.	.9349	.9672
157	998.0	1002.5	1917.	.9351	.9668
158	998.2	1002.5	1916.	.9357	.9671

998.0 1002.5 0.00 0.00 1931. .823 .921

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 16 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.

0.500 0.000 .907 .951 .951

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETZ FIELD CENTER PITTSBURGH, PENNSYLVANIA

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 GAS-TEMP-PROBE MACH NO. 17.35 WEDGE ANG. 0 PROBE ANG. 0

TEST 227
JUN 27

FRAME TIME STRUT TTR
NO. (SEC) IN POS (R)

3	.015	4.94	548.
4	.515	4.94	548.
5	1.015	4.94	548.
6	1.515	4.94	548.
7	2.015	4.94	548.
8	2.515	4.94	548.
9	3.015	47.56	548.
10	3.515	47.55	548.
11	4.015	90.32	548.
12	4.515	90.33	548.
13	5.015	90.33	548.
14	5.515	90.34	548.
15	6.015	90.34	548.
16	6.515	90.36	548.
17	7.015	90.37	548.
18	7.515	90.38	548.
19	8.015	90.39	548.
20	8.515	90.40	548.
21	9.015	90.43	548.
22	9.515	90.44	548.
23	10.015	90.45	548.
24	10.515	90.47	548.
25	11.015	90.49	548.
26	11.515	90.49	548.
27	12.015	90.51	548.
28	12.515	90.52	548.
29	13.015	90.50	548.
30	13.515	90.51	548.
31	14.015	90.51	548.
32	14.515	90.49	548.
33	15.015	90.49	548.
34	15.515	90.46	548.
35	16.015	90.45	548.
36	16.515	90.43	548.
37	17.015	90.40	548.
38	17.515	90.39	548.
39	18.015	90.36	548.
40	18.515	90.35	548.
41	19.015	90.33	548.
42	19.515	90.29	548.

TEMPERATURE IN DEGREES RANKINE

TC1 TC2

560.	565.
560.	564.
560.	565.
560.	564.
560.	565.
560.	564.
560.	564.
560.	575.
561.	656.
564.	735.
566.	807.
569.	873.
573.	936.
577.	995.
584.	1049.
590.	1101.
597.	1151.
605.	1197.
614.	1243.
624.	1277.
635.	1312.
647.	1342.
658.	1368.
672.	1392.
686.	1415.
701.	1435.
717.	1454.
732.	1471.
749.	1488.
766.	1503.
783.	1517.
801.	1528.
819.	1539.
837.	1549.
856.	1558.
875.	1567.
894.	1575.
914.	1581.
933.	1589.
952.	1595.

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392

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETT 3-230-1012-111 PRELIMINARY DATA

9.9 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 ° GAS-TEMP-PROBE MACH NO. 7.45 WEDGE ANG=0 PROBE ANG=0

TEST 227

600

FRAME NO.	PT (PSIA)	PT CELL-2 (PSIA)	PCH TT TP (DEG)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
3	204.8	205.1	1796.	.3118	.3141
4	204.8	205.1	1796.	.3118	.3141
5	204.8	205.1	1797.	.3117	.3140
6	204.8	205.1	1798.	.3116	.3140
7	204.8	205.3	1798.	.3116	.3139
8	204.8	205.3	1799.	.3114	.3136
9	204.8	205.3	1801.	.3110	.3131
10	204.8	205.1	1803.	.3106	.3187
11	204.8	205.1	1805.	.3110	.3634
12	204.8	205.1	1807.	.3120	.4067
13	204.8	205.3	1807.	.3132	.4464
14	204.8	205.3	1809.	.3147	.4827
15	204.8	205.3	1809.	.3165	.5175
16	204.8	205.3	1812.	.3185	.5491
17	204.8	205.3	1814.	.3219	.5785
18	204.8	205.3	1815.	.3251	.6069
19	204.7	205.3	1816.	.3288	.6337
20	204.8	205.1	1820.	.3326	.6578
21	204.8	205.1	1822.	.3372	.6806
22	204.8	205.3	1823.	.3425	.7037
23	204.7	205.3	1824.	.3430	.7135
24	204.7	205.1	1826.	.3542	.7347
25	204.6	205.3	1827.	.3605	.7492
26	204.7	205.1	1828.	.3677	.7618
27	204.7	205.1	1829.	.3752	.7733
28	204.6	205.1	1829.	.3831	.7847
29	204.7	205.1	1830.	.3916	.7945
30	204.7	205.1	1830.	.3998	.8037
31	204.6	205.1	1831.	.4090	.8126
32	204.8	205.1	1831.	.4182	.8209
33	204.8	205.1	1831.	.4276	.8283
34	204.8	205.4	1830.	.4375	.8349
35	204.8	205.3	1831.	.4471	.8436
36	204.7	205.4	1831.	.4571	.8463
37	204.7	205.1	1832.	.4673	.8506
38	204.8	205.1	1832.	.4777	.8552
39	204.7	205.4	1832.	.4679	.8597
40	204.7	205.3	1833.	.4986	.8530
41	204.8	205.3	1833.	.5090	.8665
42	204.8	205.4	1834.	.5196	.8597

600

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETT FIELD CAMP. 800 PRELIMINARY DATA

3.9 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 1000 GAS-TEMP-PROBE MACH NO. 7.33 WEDGE ANG 0 PROBE ANG 0

TEST 227
RUN 1/2

FRAME TIME STRUT ITR TC1 TC2 TEMPERATURE IN DEGREES RANKINE
NO. (SEC) IN POS (R)

43 20.015 90.28 548.
44 20.515 90.26 548.
45 21.015 90.25 548.
46 21.515 90.22 548.
47 22.015 90.21 548.
48 22.515 90.19 548.
49 23.015 90.19 548.
50 23.515 90.18 548.
51 24.015 90.17 548.
52 24.515 90.18 548.
53 25.015 90.19 548.
54 25.515 90.19 548.
55 26.015 90.19 548.
56 26.515 90.21 548.
57 27.015 90.24 548.
58 27.515 90.25 548.
59 28.015 90.28 548.
60 28.515 90.29 548.
61 29.015 90.30 548.
62 29.515 90.32 548.
63 30.015 90.34 548.
64 30.515 90.34 548.
65 31.015 90.35 548.
66 31.515 90.35 548.
67 32.015 90.35 548.
68 32.515 90.35 548.
69 33.015 90.34 548.
70 33.515 90.35 548.
71 34.015 90.35 548.
72 34.515 90.35 548.
73 35.015 90.33 548.
74 35.515 90.34 548.
75 36.015 90.33 548.
76 36.515 90.31 548.
77 37.015 90.32 548.
78 37.515 90.31 548.
79 38.015 90.31 548.
80 38.515 90.31 548.
81 39.015 90.30 548.
82 39.515 90.31 548.

972. 1601.
991. 1607.
1010. 1612.
1029. 1617.
1048. 1621.
1065. 1625.
1082. 1630.
1100. 1634.
1117. 1638.
1134. 1642.
1151. 1647.
1166. 1651.
1182. 1657.
1197. 1661.
1213. 1665.
1227. 1669.
1242. 1673.
1255. 1676.
1259. 1679.
1281. 1683.
1294. 1683.
1306. 1684.
1317. 1687.
1329. 1688.
1340. 1691.
1351. 1691.
1351. 1691.
1370. 1693.
1380. 1694.
1388. 1695.
1398. 1695.
1415. 1695.
1414. 1697.
1421. 1698.
1429. 1698.
1436. 1699.
1443. 1700.
1449. 1701.
1456. 1702.
1452. 1703.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA
 3.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT SET 1067 GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANGLE 8 PROBE ANGLE 0

11-51-67
 1/6

621

FRAME NO.	PT (PSIA)	PT (PSIA)	PCN TT / P (DEG)	PROBE / TOTAL TEMPERATURE RATIO
43	204.8	205.1	1834.	.5298 .8731
44	204.7	205.0	1835.	.5402 .8752
45	204.8	205.1	1835.	.5504 .8786
46	204.7	205.1	1835.	.5605 .8810
47	204.7	205.3	1835.	.5702 .8836
48	204.8	205.1	1835.	.5804 .8854
49	204.8	205.4	1835.	.5896 .8879
50	204.8	205.1	1835.	.5995 .8903
51	204.8	205.4	1835.	.6086 .8924
52	204.8	205.3	1836.	.6179 .8947
53	204.8	205.4	1836.	.6268 .8970
54	204.8	205.4	1836.	.6354 .8994
55	204.8	205.6	1837.	.6437 .9019
56	204.8	205.4	1837.	.6520 .9044
57	204.8	205.4	1837.	.6601 .9064
58	204.7	205.1	1838.	.6676 .9081
59	204.8	205.3	1839.	.6753 .9097
60	204.7	205.1	1839.	.6825 .9115
61	204.7	205.3	1839.	.6899 .9132
62	204.8	205.0	1839.	.6965 .9135
63	204.8	205.1	1839.	.7039 .9149
64	204.6	205.3	1840.	.7101 .9154
65	204.8	205.4	1840.	.7159 .9165
66	204.8	205.3	1841.	.7218 .9168
67	204.8	205.3	1841.	.7277 .9181
68	204.8	205.4	1841.	.7338 .9184
69	204.8	205.1	1841.	.7393 .9188
70	204.8	205.3	1841.	.7442 .9194
71	204.8	205.6	1841.	.7495 .9200
72	204.8	205.3	1842.	.7539 .9204
73	204.8	205.4	1842.	.7588 .9207
74	204.8	205.4	1842.	.7634 .9211
75	204.8	205.4	1842.	.7678 .9215
76	204.8	205.1	1842.	.7718 .9218
77	204.8	205.4	1842.	.7757 .9220
78	204.8	205.3	1842.	.7797 .9222
79	204.8	205.3	1842.	.7834 .9231
80	204.8	205.4	1842.	.7866 .9233
81	204.8	205.3	1842.	.7904 .9240
82	204.8	205.1	1842.	.7935 .9243

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION ARDS RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

2.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 GAS-TEMP-PROBE NACH NO. 27.32 WEDGE ANG-0 PROBE ANG-0

TEST 227

DATE 5/7

FRAME TIME STRUT TYP
NO. (SEC) IN POS (R)

TEMPERATURE IN DEGREES RANKINE
TC1 TC2

83 40.015 90.31 548.
84 40.515 90.31 548.
85 41.015 90.31 548.
86 41.515 90.30 548.
87 42.015 90.32 548.
88 42.515 90.32 548.
89 43.015 90.32 548.
90 43.515 90.33 548.
91 44.015 90.31 548.
92 44.515 90.33 548.
93 45.015 90.34 548.
94 45.515 90.36 548.
95 46.015 90.37 548.
96 46.515 90.37 548.
97 47.015 90.40 548.
98 47.515 90.42 548.
99 48.015 90.45 548.
100 48.515 90.47 548.
101 49.015 90.47 548.
102 49.515 90.51 548.
103 50.015 90.52 548.
104 50.515 90.54 548.
105 51.015 90.55 548.
106 51.515 90.53 548.
107 52.015 90.54 548.
108 52.515 90.53 548.
109 53.015 90.54 548.
110 53.515 90.52 548.
111 54.015 90.52 548.
112 54.515 90.49 548.
113 55.015 90.47 548.
114 55.515 90.47 548.
115 56.015 90.44 548.
116 56.515 90.42 548.
117 57.015 90.39 548.
118 57.515 90.37 548.
119 58.015 90.32 548.
120 58.515 90.31 548.
121 59.015 90.28 548.
122 59.515 90.27 548.

1467. 1704.
1472. 1704.
1478. 1706.
1484. 1706.
1488. 1708.
1494. 1709.
1498. 1710.
1503. 1712.
1507. 1713.
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1580. 1719.
1582. 1719.
1583. 1720.
1585. 1720.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER ROCKETT FIELD CALIF. PRELIMINARY DATA

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100.0 GAS-TEMP-PROBE MACH NO. 7.34 WEDGE ANG-0 PROBE ANG-0

TEST 287
RUN 5/7

FRAME NO.	PY (PSIA)	PT (PSIA)	PCH /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
83	204.0	205.1	1844	.8262	.9247
84	204.8	205.2	1843	.8296	.9250
85	204.7	205.2	1843	.8021	.9256
86	204.8	205.2	1844	.8047	.9252
87	204.8	205.3	1844	.8073	.9264
88	204.8	205.3	1845	.8096	.9263
89	204.8	205.3	1844	.8124	.9272
90	204.8	205.3	1845	.8147	.9281
91	204.7	205.3	1845	.8169	.9285
92	204.8	205.3	1845	.8192	.9289
93	204.7	205.1	1845	.8215	.9299
94	204.8	205.1	1845	.8236	.9302
95	204.8	205.3	1845	.8257	.9301
96	204.7	205.1	1845	.8276	.9298
97	204.7	205.1	1845	.8295	.9297
98	204.6	205.1	1844	.8311	.9300
99	204.8	205.3	1844	.8334	.9302
100	204.8	205.1	1844	.8351	.9303
101	204.8	205.3	1844	.8367	.9305
102	204.8	205.4	1844	.8381	.9302
103	204.8	205.3	1844	.8396	.9306
104	204.8	205.3	1845	.8407	.9305
105	204.8	205.3	1845	.8420	.9302
106	204.7	205.4	1845	.8431	.9301
107	204.8	205.4	1845	.8445	.9306
108	204.8	205.3	1845	.8458	.9305
109	204.8	205.3	1845	.8467	.9305
110	204.8	205.1	1846	.8476	.9301
111	204.8	205.3	1846	.8485	.9303
112	204.8	205.1	1846	.8496	.9303
113	204.8	205.3	1847	.8501	.9303
114	204.8	205.4	1847	.8514	.9307
115	204.8	205.6	1847	.8520	.9306
116	204.8	205.6	1847	.8533	.9301
117	204.8	205.6	1846	.8540	.9310
118	204.9	205.6	1847	.8552	.9311
119	204.9	205.6	1847	.8557	.9311
120	204.8	205.4	1847	.8565	.9311
121	204.8	205.4	1847	.8575	.9313
122	204.8	205.6	1847	.8580	.9313

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION NASA RESEARCH CENTER HOPEET FIELD CALIF. 92.5

205 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 1000 GAS-TEMP-2000 INCH NO. 57.35 WEDGE ANGLE 0 PROBE ANGLE 0

TES 247
RUN 1/10

FRAME NO. TIME (SEC) STRT POS (R) TEMPERATURE IN DEGREES RANKINE

123	60.015	90.23	548.	1586. 1721.
124	60.515	90.23	548.	1588. 1721.
125	61.015	90.20	548.	1588. 1721.
126	61.515	90.20	548.	1590. 1721.
127	62.015	90.21	548.	1591. 1721.
128	62.515	90.20	548.	1592. 1720.
129	63.015	90.20	548.	1594. 1720.
130	63.515	90.22	548.	1595. 1720.
131	64.015	90.22	548.	1595. 1720.
132	64.515	90.25	548.	1596. 1721.
133	65.015	90.29	548.	1597. 1721.
134	65.515	90.30	548.	1599. 1722.
135	66.015	90.32	548.	1599. 1723.
136	66.515	90.36	548.	1599. 1723.
137	67.015	90.35	548.	1601. 1723.
138	67.515	90.36	548.	1602. 1723.
139	68.015	90.35	548.	1603. 1723.
140	68.515	90.36	548.	1603. 1722.
141	69.015	90.34	548.	1604. 1721.
142	69.515	90.35	548.	1605. 1723.
143	70.015	90.32	548.	1606. 1723.
144	70.515	90.31	548.	1606. 1723.
145	71.015	90.32	548.	1607. 1724.
146	71.515	90.31	548.	1608. 1724.
147	72.015	90.31	548.	1609. 1724.
148	72.515	90.30	548.	1610. 1723.
149	73.015	90.31	548.	1610. 1723.
150	73.515	90.31	548.	1610. 1722.
151	74.015	90.31	546.	1611. 1721.
152	74.515	90.31	548.	1612. 1721.
153	75.015	90.32	548.	1612. 1722.
154	75.515	90.32	548.	1613. 1723.
155	76.015	90.33	548.	1613. 1723.
156	76.515	90.34	546.	1614. 1723.
157	77.015	90.36	546.	1614. 1723.
158	77.515	90.37	546.	1614. 1723.
159	78.015	90.40	546.	1615. 1722.
160	78.515	90.43	548.	1616. 1722.
161	79.015	90.44	546.	1616. 1723.
162	79.515	90.47	546.	1617. 1723.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION RESEARCH CENTER WRIGHT-PATTERSON AIR FORCE BASE, OHIO

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.23 WEDGE ANGLE PROBE ANGLE

TEST 227

NOV 6/11

FRAME NO.	PT (PSIA)	PT (PSIA)	QCH TT /P (DEGREE)	PROBE 1	PROBE 2	TOTAL TEMPERATURE RATIO
123	204.8	205.4	1847.	.8589	.9318	
124	204.8	205.4	1847.	.8596	.9318	
125	204.8	205.6	1847.	.8601	.9319	
126	204.8	205.6	1846.	.8613	.9321	
127	204.8	205.6	1847.	.8616	.9319	
128	204.8	205.6	1847.	.8619	.9311	
129	204.8	205.6	1847.	.8626	.9312	
130	204.8	205.6	1847.	.8631	.9311	
131	204.8	205.4	1847.	.8637	.9314	
132	204.8	205.6	1847.	.8638	.9314	
133	204.8	205.6	1847.	.8649	.9317	
134	204.8	205.6	1847.	.8654	.9321	
135	204.8	205.6	1848.	.8654	.9326	
136	204.8	205.6	1848.	.8657	.9327	
137	204.8	205.3	1848.	.8665	.9324	
138	204.8	205.3	1848.	.8667	.9320	
139	204.8	205.1	1848.	.8672	.9323	
140	204.8	205.3	1848.	.8674	.9320	
141	204.7	205.1	1848.	.8681	.9311	
142	204.8	205.1	1848.	.8686	.9321	
143	204.7	205.3	1849.	.8687	.9321	
144	204.8	205.3	1849.	.8689	.9320	
145	204.8	205.1	1849.	.8690	.9321	
146	204.7	205.1	1851.	.8690	.9313	
147	204.8	205.1	1851.	.8691	.9310	
148	204.8	205.3	1851.	.8695	.9307	
149	204.8	205.1	1851.	.8697	.9307	
150	204.8	205.1	1851.	.8701	.9302	
151	204.8	205.3	1851.	.8704	.9299	
152	204.8	205.1	1850.	.8711	.9301	
153	204.8	205.4	1850.	.8716	.9309	
154	204.8	205.3	1849.	.8724	.9319	
155	204.8	205.3	1849.	.8725	.9318	
156	204.8	205.6	1849.	.8726	.9319	
157	204.8	205.4	1850.	.8725	.9313	
158	204.8	205.6	1850.	.8727	.9312	
159	204.8	205.4	1850.	.8730	.9307	
160	204.8	205.4	1851.	.8731	.9307	
161	204.8	205.4	1852.	.8732	.9309	
162	204.8	205.4	1851.	.8738	.9312	

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662

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOORE FIELD CALIF. PRELIMINARY DATA

9.9 FT. HYPERSONIC WIND TUNNEL

CONSTANT STAY TIME GAS-TEMP-PROBE WACH NO. 02-19 WEDGE ANGLE PROBE ANGLE

TEST 227
RUN 1

FRAME NO.	TIME (SEC)	STAY IN POS	TTD (R)	TEMPERATURE IN DEGREES RANKINE
-----------	------------	-------------	---------	--------------------------------

163	80.015	90.49	548.	1617. 1724.
164	80.515	90.52	548.	1617. 1724.
165	81.015	90.52	548.	1619. 1724.
166	81.515	90.51	548.	1619. 1724.
167	82.015	90.52	548.	1619. 1725.
168	82.515	90.50	548.	1620. 1725.
169	83.015	90.49	548.	1620. 1725.
170	83.515	90.47	548.	1621. 1727.
171	84.015	90.42	548.	1621. 1727.
172	84.515	90.40	548.	1622. 1728.
173	85.015	90.36	548.	1622. 1728.
174	85.515	90.34	548.	1623. 1728.
175	86.015	90.30	548.	1623. 1728.
176	86.515	90.29	548.	1624. 1728.
177	87.015	47.48	548.	1624. 1730.
178	87.515	19.15	548.	1622. 1725.
179	88.015	4.93	548.	1620. 1717.
180	88.515	4.93	548.	1617. 1708.
181	89.015	4.93	548.	1614. 1698.

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674

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFMAN ENGINE CALIBRATION PRELIMINARY DATA

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 GAS-TEMP-PROBE MACH NO. = 7.35 WEDGE ANG = 0 PROBE ANG = 0

TEST 227

RUN 1574

FRAME NO.	PT NO.	CELL 2 (PSIA) (PSIA)	PCH JP (DEGR)	PROBE 2 TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
163	204.8	205.4	1851.	.8731	.9314
164	204.8	205.4	1851.	.8738	.9319
165	204.8	205.4	1851.	.8741	.9314
166	204.8	205.4	1852.	.8742	.9310
167	204.8	205.4	1851.	.8749	.9319
168	204.8	205.4	1851.	.8751	.9317
169	204.8	205.4	1851.	.8753	.9319
170	204.8	205.4	1851.	.8756	.9327
171	204.8	205.3	1851.	.8758	.9333
172	204.8	205.3	1851.	.8761	.9334
173	204.8	205.1	1851.	.8763	.9332
174	204.8	205.3	1851.	.8769	.9337
175	204.8	205.3	1851.	.8771	.9338
176	204.8	205.3	1851.	.8772	.9338
177	204.7	205.3	1852.	.8772	.9342
178	204.7	205.1	1852.	.8762	.9315
179	204.7	205.1	1852.	.8749	.9274
180	204.7	205.3	1852.	.8731	.9224
181	204.7	205.1	1853.	.8712	.9167

A * V * E * R * A * G * E V * A * L * U * E * S

204.8 205.3 0.00 0.00 1839. .710 .859

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.
0.000 0.000 .931 .903 .903

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET NO. 6 GAS-TEMP-PROBE RACH NO. 17.35 WEDGE ANG-D PROBE ANG-B

TEST 227
RUN 177

FRAME TIME STRUT TTR
NO. (SEC) IN PDS (R)

TC1 TC2

TEMPERATURE IN DEGREES RANKINE

3 .014 4.95 551.
4 .515 4.94 551.
5 1.015 4.96 551.
6 1.515 4.94 551.
7 2.015 47.49 551.
8 2.515 47.59 551.
9 3.015 77.74 552.
10 3.515 90.42 551.
11 4.015 90.40 551.
12 4.515 90.36 551.
13 5.015 90.36 551.
14 5.515 90.32 551.
15 6.015 90.29 551.
16 6.515 90.28 551.
17 7.015 90.25 551.
18 7.515 90.23 551.
19 8.015 90.22 551.
20 8.515 90.22 551.
21 9.015 90.21 551.
22 9.515 90.21 551.
23 10.015 90.21 551.
24 10.515 90.21 551.
25 11.015 90.23 551.
26 11.515 90.25 551.
27 12.015 90.27 551.
28 12.515 90.31 551.
29 13.015 90.31 551.
30 13.515 90.33 551.
31 14.015 90.34 551.
32 14.515 90.35 551.
33 15.015 90.37 551.
34 15.515 90.34 551.
35 16.015 90.36 551.
36 16.515 90.35 551.
37 17.015 90.33 551.
38 17.515 90.33 552.
39 18.015 90.32 552.
40 18.515 90.31 552.
41 19.015 90.32 552.
42 19.515 90.31 552.

556. 561.
556. 561.
556. 561.
556. 561.
556. 561.
556. 561.
557. 629.
560. 708.
561. 785.
555. 854.
569. 924.
573. 989.
579. 1048.
585. 1103.
592. 1155.
600. 1203.
609. 1249.
619. 1288.
629. 1324.
641. 1357.
652. 1387.
666. 1415.
680. 1442.
694. 1465.
708. 1486.
725. 1505.
742. 1523.
758. 1540.
777. 1555.
794. 1570.
814. 1583.
832. 1597.
852. 1609.
872. 1619.
893. 1631.
914. 1641.
935. 1652.
956. 1661.
977. 1670.
998. 1677.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH N1 = 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 221
RUN 7/1

FRAME NO.	PT. (PSIA)	PT. CELL 2 (PSIA)	PCM TP (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROBE1	PROBE2
3	205.1	205.5	1869.	.2974	.3001
4	209.3	205.7	1869.	.2973	.3000
5	205.1	205.7	1868.	.2973	.3002
6	205.0	205.5	1868.	.2975	.3002
7	203.9	205.5	1868.	.2976	.3003
8	204.8	205.4	1868.	.2976	.3003
9	204.3	205.4	1870.	.2979	.3364
10	204.6	205.4	1870.	.2992	.3787
11	204.3	205.3	1873.	.2995	.4190
12	204.5	205.5	1874.	.3014	.4559
13	205.0	205.4	1874.	.3036	.4929
14	204.9	205.5	1875.	.3058	.5274
15	204.9	205.4	1877.	.3084	.5584
16	205.1	205.5	1878.	.3114	.5870
17	204.9	205.6	1879.	.3151	.6147
18	205.0	205.5	1880.	.3189	.6400
19	204.9	205.5	1883.	.3236	.6623
20	204.8	205.4	1885.	.3283	.6835
21	204.2	205.4	1886.	.3334	.7020
22	204.6	205.4	1897.	.3396	.7191
23	204.2	205.3	1888.	.3456	.7349
24	204.2	205.4	1888.	.3525	.7493
25	204.3	205.4	1891.	.3595	.7624
26	204.8	205.5	1893.	.3667	.7739
27	204.3	205.5	1894.	.3740	.7844
28	204.9	205.5	1896.	.3825	.7937
29	204.8	205.6	1899.	.3926	.8023
30	204.8	205.5	1900.	.3988	.8103
31	204.9	205.7	1901.	.4085	.8181
32	205.0	205.6	1903.	.4173	.8249
33	205.1	205.7	1905.	.4270	.8310
34	205.3	205.9	1907.	.4365	.8372
35	205.1	206.0	1908.	.4465	.8428
36	205.1	206.0	1916.	.4572	.8482
37	205.4	205.9	1909.	.4678	.8539
38	205.5	205.9	1912.	.4782	.8584
39	205.3	206.0	1914.	.4885	.8630
40	205.3	206.0	1916.	.4992	.8668
41	205.3	206.0	1917.	.5098	.8709
42	205.3	205.8	1918.	.5204	.8743

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 700 ° GAS-TEMP-PROBE MACH NO. = 7.35 WEDGE ANG = 0 PROBE ANG = 0

TEST 227
 RUN 7/4

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	TC1	TC2	TEMPERATURE IN DEGREES RANKINE
43	20.015	90.31	552.	1019.	1684.	
44	20.515	90.30	552.	1040.	1691.	
45	21.015	90.30	552.	1060.	1697.	
46	21.515	90.29	552.	1081.	1702.	
47	22.015	90.31	552.	1101.	1707.	
48	22.515	90.30	552.	1120.	1712.	
49	23.015	90.30	552.	1140.	1718.	
50	23.515	90.31	552.	1158.	1722.	
51	24.015	90.31	552.	1177.	1726.	
52	24.515	90.31	552.	1195.	1728.	
53	25.015	90.31	552.	1212.	1731.	
54	25.515	90.32	552.	1230.	1734.	
55	26.015	90.33	552.	1246.	1737.	
56	26.515	90.32	552.	1262.	1739.	
57	27.015	90.33	552.	1278.	1741.	
58	27.515	90.34	552.	1293.	1745.	
59	28.015	90.34	552.	1307.	1746.	
60	28.515	90.34	552.	1321.	1749.	
61	29.015	90.36	552.	1335.	1749.	
62	29.515	90.37	552.	1348.	1752.	
63	30.015	90.38	552.	1361.	1753.	
64	30.515	90.39	552.	1373.	1755.	
65	31.015	90.43	552.	1385.	1757.	
66	31.515	90.44	552.	1396.	1758.	
67	32.015	90.46	552.	1407.	1760.	
68	32.515	90.46	552.	1416.	1761.	
69	33.015	90.48	552.	1428.	1762.	
70	33.515	90.50	552.	1438.	1763.	
71	34.015	90.52	552.	1447.	1764.	
72	34.515	90.51	552.	1455.	1767.	
73	35.015	90.51	552.	1455.	1770.	
74	35.515	90.52	552.	1473.	1772.	
75	36.015	90.52	552.	1480.	1774.	
76	36.515	90.50	552.	1488.	1776.	
77	37.015	90.50	552.	1496.	1778.	
78	37.515	90.48	552.	1503.	1780.	
79	38.015	90.45	552.	1510.	1782.	
80	38.515	90.43	552.	1517.	1783.	
81	39.015	90.41	552.	1524.	1783.	
82	39.515	90.39	552.	1530.	1784.	

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. = 7.35 WEDGE ANG = 0 PROBE ANG = 0

TEST 227
 RUN 74

FRAME NO.	PT (PSIA)	PT. CELL 2 (PSIA)	PCM TEMP (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
43	205.1	205.8	1919.	.5329	.8776
44	205.3	205.0	1919.	.5418	.8811
45	205.3	205.9	1920.	.5522	.8838
46	205.1	205.6	1922.	.5623	.8857
47	205.1	205.7	1923.	.5724	.8878
48	205.1	205.6	1923.	.5825	.8904
49	204.9	205.5	1923.	.5926	.8934
50	205.0	205.6	1923.	.6021	.8955
51	205.3	205.9	1924.	.6117	.8970
52	204.9	205.5	1924.	.6209	.8981
53	204.7	205.6	1925.	.6296	.8991
54	204.8	205.6	1926.	.6385	.9005
55	204.8	205.5	1925.	.6471	.9022
56	204.7	205.4	1926.	.6553	.9025
57	204.2	205.4	1927.	.6632	.9039
58	204.3	205.3	1926.	.6712	.9056
59	203.5	205.2	1926.	.6784	.9053
60	204.2	205.2	1926.	.6861	.9076
61	203.5	205.3	1926.	.6932	.9083
62	204.0	205.3	1926.	.6999	.9095
63	204.3	205.2	1926.	.7068	.9104
64	204.2	205.2	1926.	.7129	.9114
65	204.2	205.3	1927.	.7186	.9117
66	203.9	205.1	1927.	.7245	.9122
67	203.9	205.2	1928.	.7297	.9128
68	204.2	205.3	1928.	.7353	.9131
69	204.1	205.1	1928.	.7404	.9139
70	204.5	205.4	1929.	.7454	.9143
71	204.3	205.4	1929.	.7500	.9146
72	204.3	205.4	1929.	.7544	.9160
73	204.3	205.4	1931.	.7587	.9167
74	204.7	205.4	1932.	.7623	.9173
75	205.0	205.5	1932.	.7664	.9186
76	204.9	205.5	1932.	.7704	.9194
77	204.9	205.6	1932.	.7745	.9204
78	204.9	205.6	1932.	.7781	.9214
79	204.9	205.6	1933.	.7813	.9221
80	204.8	205.3	1934.	.7846	.9219
81	204.8	205.5	1934.	.7879	.9219
82	204.3	205.4	1934.	.7913	.9226

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 327
 RUN 7/7

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	TEMPERATURE IN DEGREES RANKINE	
				TC1	TC2
83	40.015	90.39	552.	1536.	1785.
84	40.515	90.37	552.	1542.	1785.
85	41.015	90.34	552.	1547.	1785.
86	41.515	90.33	552.	1553.	1785.
87	42.015	90.29	552.	1558.	1786.
88	42.515	90.29	552.	1562.	1786.
89	43.015	90.26	552.	1567.	1786.
90	43.515	90.25	552.	1571.	1786.
91	44.015	90.24	552.	1576.	1786.
92	44.515	90.23	552.	1580.	1786.
93	45.015	90.21	552.	1584.	1786.
94	45.515	90.20	552.	1587.	1786.
95	46.015	90.20	552.	1591.	1786.
96	46.515	90.20	552.	1594.	1786.
97	47.015	90.17	552.	1598.	1786.
98	47.515	90.19	552.	1601.	1789.
99	48.015	90.19	552.	1604.	1789.
100	48.515	90.18	552.	1607.	1789.
101	49.015	90.19	552.	1609.	1790.
102	49.515	90.20	552.	1613.	1790.
103	50.015	90.22	552.	1615.	1791.
104	50.515	90.22	552.	1618.	1792.
105	51.015	90.24	552.	1621.	1792.
106	51.515	90.26	552.	1623.	1793.
107	52.015	90.29	552.	1625.	1793.
108	52.515	90.29	552.	1627.	1793.
109	52.615	90.30	552.	1630.	1793.
110	53.515	90.31	552.	1632.	1793.
111	54.015	90.33	552.	1634.	1793.
112	54.515	90.34	552.	1635.	1793.
113	55.015	90.34	552.	1637.	1793.
114	55.515	90.33	552.	1639.	1793.
115	56.015	90.35	552.	1641.	1793.
116	56.515	90.35	552.	1642.	1793.
117	57.015	90.35	552.	1644.	1793.
118	57.515	90.33	552.	1645.	1794.
119	58.015	90.35	552.	1646.	1794.
120	58.515	90.34	552.	1648.	1795.
121	59.015	90.33	552.	1650.	1795.
122	59.515	90.32	552.	1651.	1796.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. -7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 7/8

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
83	204.8	205.5	1934.	.7939	.9226
84	204.8	205.5	1934.	.7971	.9231
85	204.9	205.5	1935.	.7997	.9229
86	204.9	205.5	1937.	.8017	.9220
87	204.8	205.5	1936.	.8044	.9222
88	204.8	205.5	1935.	.8072	.9226
89	204.8	205.5	1935.	.8098	.9229
90	204.9	205.5	1935.	.8123	.9234
91	204.9	205.5	1936.	.8139	.9227
92	205.0	205.7	1937.	.8156	.9224
93	205.1	205.7	1937.	.8175	.9222
94	205.0	205.5	1937.	.8193	.9219
95	205.1	205.7	1938.	.8210	.9214
96	205.1	205.8	1938.	.8228	.9216
97	205.3	205.7	1937.	.8246	.9221
98	205.1	205.8	1937.	.8264	.9231
99	205.1	206.0	1938.	.8280	.9234
100	205.1	205.6	1939.	.8289	.9230
101	204.9	205.8	1939.	.8298	.9230
102	205.1	205.7	1940.	.8312	.9227
103	205.0	205.7	1940.	.8325	.9233
104	205.1	205.7	1941.	.8335	.9231
105	205.1	205.9	1941.	.8348	.9234
106	205.0	205.7	1941.	.8360	.9237
107	205.3	205.9	1941.	.8373	.9237
108	205.0	205.7	1941.	.8381	.9236
109	205.1	205.6	1941.	.8396	.9237
110	205.3	205.7	1941.	.8406	.9237
111	204.9	205.5	1941.	.8416	.9235
112	205.0	205.6	1941.	.8423	.9236
113	205.1	205.5	1941.	.8435	.9238
114	204.9	205.6	1941.	.8445	.9239
115	204.9	205.6	1941.	.8456	.9240
116	204.8	205.5	1940.	.8464	.9241
117	204.9	205.5	1940.	.8473	.9242
118	204.8	205.4	1940.	.8480	.9244
119	205.0	205.4	1941.	.8480	.9241
120	204.9	205.5	1942.	.8487	.9239
121	204.8	205.5	1943.	.8490	.9241
122	204.7	205.5	1943.	.8500	.9246

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 7/10

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	TC1	TC2	TEMPERATURE IN DEGREES RANKINE
-----------	------------	--------------	---------	-----	-----	--------------------------------

123	60.015	90.33	552.	1652.	1797.
124	60.515	90.31	552.	1654.	1797.
125	61.015	90.31	552.	1655.	1797.
126	61.515	90.31	552.	1656.	1797.
127	62.015	90.31	552.	1657.	1798.
128	62.515	90.29	552.	1659.	1798.
129	63.015	90.31	552.	1660.	1797.
130	63.515	90.30	552.	1661.	1797.
131	64.015	90.30	552.	1662.	1797.
132	64.515	90.32	552.	1663.	1797.
133	65.015	90.31	552.	1664.	1797.
134	65.515	90.31	552.	1665.	1797.
135	66.015	90.32	552.	1666.	1798.
136	66.515	90.32	552.	1667.	1799.
137	67.015	90.34	552.	1668.	1799.
138	67.515	90.34	552.	1668.	1799.
139	68.015	90.36	552.	1669.	1799.
140	68.515	90.36	552.	1671.	1800.
141	69.015	90.37	552.	1671.	1800.
142	69.515	90.39	552.	1672.	1800.
143	70.015	90.44	552.	1672.	1800.
144	70.515	90.44	552.	1674.	1801.
145	71.015	90.45	552.	1675.	1801.
146	71.515	90.48	552.	1675.	1801.
147	72.015	90.51	552.	1676.	1801.
148	72.515	90.52	552.	1677.	1801.
149	73.015	90.54	552.	1678.	1801.
150	73.515	90.54	552.	1679.	1802.
151	74.015	90.53	552.	1679.	1802.
152	74.515	90.53	552.	1679.	1801.
153	75.015	90.54	552.	1680.	1801.
154	75.515	90.52	552.	1681.	1801.
155	76.015	90.52	552.	1682.	1801.
156	76.515	90.51	552.	1682.	1801.
157	77.015	90.48	552.	1683.	1801.
158	77.515	90.47	552.	1683.	1801.
159	78.015	90.43	552.	1683.	1801.
160	78.515	90.42	552.	1685.	1801.
161	79.015	90.41	552.	1685.	1801.
162	79.515	90.37	552.	1686.	1801.

ORIGINAL PAGE IS
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER ROCKET ENGINE TEST PRELIMINARY DATA

9.5-FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 GAS-TEMP-PROBE MACH NO. = 7.25 WEDGE ANG = 0 PROBE ANG = 0

TEST 221
RUN 7//

FRAME NO.	PT. (PSIA)	PT. CELL 2 (PSIA)	PCM 11 /P- (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
123	204.9	205.4	1942.	.8508	.9250
124	204.8	205.4	1943.	.8513	.9248
125	204.7	205.4	1943.	.8519	.9251
126	205.0	205.4	1943.	.8525	.9252
127	204.9	205.5	1944.	.8525	.9247
128	204.8	205.5	1944.	.8533	.9247
129	204.7	205.5	1943.	.8542	.9248
130	204.8	205.6	1943.	.8548	.9248
131	204.9	205.5	1943.	.8554	.9247
132	204.8	205.6	1943.	.8561	.9248
133	204.9	205.5	1943.	.8563	.9248
134	204.7	205.4	1944.	.8566	.9247
135	204.6	205.4	1944.	.8569	.9248
136	204.8	205.4	1945.	.8572	.9252
137	204.9	205.4	1944.	.8577	.9256
138	204.8	205.6	1945.	.8578	.9251
139	205.0	205.5	1944.	.8585	.9254
140	205.1	205.6	1945.	.8588	.9253
141	205.0	205.7	1945.	.8594	.9256
142	205.1	205.8	1944.	.8599	.9258
143	205.1	205.7	1944.	.8600	.9258
144	205.0	205.7	1944.	.8609	.9261
145	205.1	205.8	1945.	.8610	.9257
146	205.3	206.0	1946.	.8607	.9256
147	205.3	205.8	1946.	.8613	.9258
148	205.3	205.9	1946.	.8619	.9259
149	205.3	205.9	1947.	.8619	.9254
150	205.3	205.9	1947.	.8623	.9259
151	205.0	206.0	1946.	.8628	.9260
152	205.1	205.7	1947.	.8627	.9254
153	205.0	205.6	1947.	.8629	.9251
154	205.1	205.5	1947.	.8636	.9254
155	205.1	205.6	1946.	.8640	.9255
156	205.0	205.7	1946.	.8643	.9255
157	205.0	205.5	1947.	.8642	.9250
158	205.0	205.5	1947.	.8646	.9253
159	204.8	205.6	1947.	.8647	.9252
160	205.0	205.6	1947.	.8653	.9253
161	205.0	205.5	1947.	.8657	.9254
162	204.9	205.5	1946.	.8661	.9256

ORIGINAL PAGE IS
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 ° GAS-TEMP-PROBE MACH NO. = 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 7/13

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	TEMPERATURE IN DEGREES RANKINE	
				TC1	TC2
163	80.015	90.36	552.	1686.	1802.
164	80.515	90.32	552.	1687.	1803.
165	81.015	90.30	552.	1687.	1804.
166	91.515	90.29	552.	1688.	1805.
167	02.015	90.28	552.	1689.	1805.
168	02.515	90.27	552.	1689.	1804.
169	03.015	90.23	552.	1689.	1804.
170	03.515	90.23	552.	1690.	1804.
171	04.015	90.22	552.	1690.	1805.
172	04.515	90.21	552.	1690.	1808.
173	05.015	90.21	552.	1692.	1810.
174	05.515	47.15	552.	1692.	1811.
175	06.015	4.94	552.	1690.	1804.
176	06.515	4.94	552.	1687.	1794.
177	07.015	4.94	552.	1685.	1783.

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OF POOR QUALITY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA
 3.5 FT HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 7/14

FRAME NO.	PT CELL 2		PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
	(PSIA)	(PSIA)		PROB1	PROB2
163	205.1	205.5	1946.	.8666	.9259
164	204.8	205.5	1946.	.8668	.9266
165	204.8	205.5	1946.	.8669	.9272
166	204.9	205.5	1946.	.8671	.9275
167	205.0	205.5	1946.	.8676	.9275
168	205.0	205.5	1947.	.8675	.9268
169	204.9	205.5	1947.	.8675	.9265
170	205.0	205.5	1947.	.8678	.9267
171	205.0	205.5	1947.	.8683	.9279
172	204.9	205.5	1947.	.8684	.9298
173	204.9	205.4	1948.	.8687	.9291
174	205.3	205.5	1948.	.8686	.9296
175	205.0	205.7	1949.	.8669	.9254
176	205.3	205.7	1950.	.8650	.9233
177	205.1	205.6	1950.	.8639	.9161

A * V * E * R * A * G * E V * A * I * U * E * S

204.9 205.6 0.00 0.00 1927. .701 .858

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.

0.000 0.000 .926 .897 .897

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227

TEMPERATURE IN DEGREES RANKINE

728. 605.
773. 070.
905. 1554.
921. 1222.
659. 1347.
681. 1440.
715. 1524.
752. 1563.
795. 1631.
830. 1670.
871. 1702.
914. 1732.
957. 1759.
1000. 1783.
1044. 1802.
1287. 1821.
1129. 1839.
1171. 1854.
1217. 1865.
1251. 1873.
1290. 1883.
1326. 1891.
1363. 1907.
1397. 1917.
1423. 1915.
1460. 1922.
1490. 1929.
1518. 1939.
1545. 1945.
1573. 1951.
1594. 1952.
1616. 1952.
1637. 1952.
1656. 1953.
1675. 1957.
1692. 1957.
1708. 1961.
1722. 1961.
1737. 1964.
1753. 1968.

ORIGINS OF POOR QUALITY

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MCFEELY FIELD CALDER 445 PRELIMINARY DATA
 3.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.30 WEDGE ANG=0 PROBE ANG=0

TEST 227
 RUN 1/2

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TV 7P 10 60	PROBE 1	PROBE 2	TOTAL TEMPERATURE RATIO
9	204.8	205.3	1966.	.2832	.3482	
10	204.9	205.3	1967.	.2911	.3482	
11	204.9	205.3	1967.	.3023	.3409	
12	204.8	205.2	1966.	.3137	.3216	
13	204.9	205.3	1966.	.3202	.3352	
14	204.8	205.3	1967.	.3464	.3360	
15	204.8	205.3	1969.	.3633	.3738	
16	204.9	205.2	1971.	.3813	.3833	
17	204.9	205.3	1973.	.4007	.3855	
18	204.8	205.1	1974.	.4206	.3457	
19	204.9	205.1	1978.	.4406	.3607	
20	204.9	205.3	1980.	.4614	.3747	
21	204.8	205.2	1985.	.4822	.3852	
22	204.8	205.1	1989.	.5031	.3966	
23	204.9	205.4	1991.	.5243	.3955	
24	205.2	205.5	1992.	.5456	.3942	
25	204.9	205.3	1995.	.5661	.3917	
26	204.9	205.2	1998.	.5863	.3929	
27	205.1	205.2	2001.	.6057	.3922	
28	204.9	205.2	2003.	.6247	.3953	
29	204.9	205.3	2006.	.6429	.3984	
30	204.9	205.6	2009.	.6634	.3947	
31	204.9	205.5	2011.	.6777	.3948	
32	205.2	205.6	2013.	.6939	.3977	
33	205.2	205.6	2015.	.7092	.3993	
34	205.2	205.7	2016.	.7241	.3930	
35	205.1	205.6	2017.	.7385	.3954	
36	205.1	205.6	2019.	.7520	.3934	
37	204.9	205.5	2020.	.7648	.3934	
38	204.9	205.5	2021.	.7768	.3959	
39	204.9	205.5	2022.	.7881	.3954	
40	204.8	205.6	2025.	.7980	.3949	
41	204.7	205.2	2025.	.8082	.3935	
42	204.9	205.1	2025.	.8177	.3943	
43	204.9	205.2	2026.	.8265	.3956	
44	204.8	205.1	2027.	.8346	.3965	
45	204.8	204.9	2028.	.8429	.3970	
46	204.7	204.9	2029.	.8487	.3968	
47	204.7	205.1	2030.	.8554	.3976	
48	204.9	205.1	2032.	.8611	.3985	

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0.09 HZ VIBRATION OF HIND
CONSTANT SEV P 0 GAY

RECH-STER HAPPEL FIELD 1.7.77

TEST 227
CUP 14

FRAME TIME STRUT TTR
NO (SEC) IN POS 382

TEMPERATURE IN DEGREES RANKING

50 23.019 90.50 555.
51 24.019 90.50 555.
52 24.519 90.50 555.
53 25.019 90.50 555.
54 25.519 90.50 555.
55 26.019 90.57 555.
56 26.519 90.55 555.
57 27.019 90.52 555.
58 27.519 90.48 555.
59 28.019 90.42 555.
60 28.519 90.35 555.
61 29.019 90.31 555.
62 29.519 90.29 555.
63 30.019 90.26 555.
64 30.519 90.25 555.
65 31.019 90.26 555.
66 31.519 90.27 555.
67 32.019 90.29 555.
68 32.519 90.33 555.
69 33.019 90.36 555.
70 33.519 90.40 555.
71 34.019 90.41 555.
72 34.519 90.43 555.
73 35.019 90.41 555.
74 35.519 90.40 555.
75 36.019 90.39 555.
76 36.519 90.37 555.
77 37.019 90.37 555.
78 37.519 90.37 555.
79 38.019 90.38 555.
80 38.519 90.39 555.
81 39.019 90.40 555.
82 39.519 90.44 555.
83 40.019 90.49 555.
84 40.519 90.52 555.
85 41.019 90.59 555.
86 41.519 90.59 555.
87 42.019 90.58 555.
88 42.519 90.53 555.

1762. 1971.

1770. 1973.

1774. 1975.

1794. 1976.

1803. 1987.

1812. 1985.

1820. 1987.

1828. 1987.

1835. 1987.

1841. 1985.

1848. 1985.

1859. 1985.

1858. 1983.

1863. 1983.

1867. 1982.

1871. 1981.

1874. 1983.

1878. 1979.

1881. 1978.

1884. 1978.

1886. 1979.

1889. 1981.

1891. 1982.

1893. 1983.

1895. 1985.

1897. 1986.

1900. 1983.

1900. 1989.

1903. 1993.

1905. 1993.

1907. 1991.

1908. 1991.

1909. 1992.

1911. 1993.

1912. 1992.

1914. 1994.

1915. 1993.

1915. 1994.

1917. 1993.

1918. 1991.

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81

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MURPHREE FIELD CAMP, TEX. PRELIMINARY DATA

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE WACH NO. 7.31 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 8/4

FRAME NO.	PT (PSIA)	PT CELL (PSIA)	PCM TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
49	204.8	205.1	2033.	.8656	.9696
50	204.8	205.3	2034.	.8716	.9701
51	205.1	205.6	2036.	.8761	.9702
52	204.9	205.5	2038.	.8804	.9712
53	204.9	205.4	2039.	.8861	.9713
54	204.9	205.6	2039.	.8886	.9736
55	204.9	205.3	2040.	.8926	.9741
56	204.9	205.4	2040.	.8962	.9740
57	204.9	205.6	2040.	.8998	.9740
58	204.9	205.4	2040.	.9026	.9732
59	204.9	205.6	2041.	.9055	.9729
60	204.9	205.5	2041.	.9078	.9723
61	204.9	205.6	2041.	.9107	.9719
62	204.9	205.3	2040.	.9130	.9719
63	204.9	205.3	2041.	.9156	.9710
64	204.9	205.3	2042.	.9162	.9703
65	205.1	205.2	2041.	.9182	.9699
66	204.9	205.4	2041.	.9199	.9695
67	204.8	205.4	2042.	.9219	.9688
68	204.7	205.3	2043.	.9222	.9686
69	204.9	205.5	2043.	.9234	.9689
70	204.9	205.3	2043.	.9246	.9696
71	204.9	205.6	2044.	.9254	.9700
72	204.9	205.3	2045.	.9263	.9700
73	204.9	205.5	2045.	.9268	.9705
74	204.9	205.5	2045.	.9273	.9710
75	204.9	205.6	2046.	.9285	.9716
76	204.9	205.4	2046.	.9290	.9725
77	204.9	205.3	2047.	.9299	.9722
78	204.9	205.3	2047.	.9305	.9722
79	205.2	205.6	2047.	.9314	.9723
80	204.9	205.1	2047.	.9320	.9724
81	204.9	205.4	2048.	.9325	.9730
82	205.2	205.5	2048.	.9331	.9730
83	204.9	205.4	2049.	.9332	.9722
84	204.9	205.4	2049.	.9340	.9728
85	204.9	205.5	2050.	.9343	.9726
86	205.2	205.5	2049.	.9346	.9727
87	205.2	205.4	2050.	.9355	.9722
88	205.2	205.6	2050.	.9359	.9715

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION ARCS RESEARCH CENTER HOPFETTSVILLE, MARYLAND
 3.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. = 7.32 WEDGE ANGLE PROBE ANGLE

TEST 223
 RUN 1/1

FRAME NO.	TIME (SEC)	STRT IN POS	TTR (IN)	TEMPERATURE IN DEGREES RANKINE
-----------	------------	-------------	----------	--------------------------------

89	43.015	90.48	555.	1919. 1992.
90	43.515	90.49	555.	1920. 1992.
91	44.015	90.37	555.	1921. 1993.
92	44.515	90.39	555.	1922. 1993.
93	45.015	90.30	555.	1923. 1993.
94	45.515	90.25	555.	1924. 1994.
95	46.015	90.26	555.	1924. 1994.
96	46.515	90.26	555.	1925. 1995.
97	47.015	90.28	555.	1926. 1996.
98	47.515	90.30	555.	1927. 2000.
99	48.015	90.34	555.	1928. 2000.
100	48.515	90.37	555.	1929. 2001.
101	49.015	90.41	555.	1930. 2001.
102	49.515	90.41	555.	1931. 2001.
103	50.015	90.39	555.	1932. 2002.
104	50.515	90.39	555.	1933. 2002.
105	51.015	90.36	555.	1934. 2005.
106	51.515	90.36	555.	1936. 2009.
107	52.015	90.35	555.	1937. 2012.
108	52.515	90.35	555.	1938. 2009.
109	53.015	90.36	555.	1939. 2009.
110	53.515	90.38	555.	1940. 2009.
111	54.015	90.42	555.	1942. 2011.
112	54.515	90.47	555.	1943. 2013.
113	55.015	90.52	555.	1944. 2013.
114	55.515	90.57	555.	1945. 2013.
115	56.015	90.56	555.	1946. 2011.
116	56.515	90.52	555.	1947. 2009.
117	57.015	90.47	555.	1948. 2009.
118	57.515	90.40	555.	1949. 2003.
119	58.015	90.34	555.	1949. 2008.
120	58.515	90.28	555.	1949. 2009.
121	59.015	90.25	555.	1950. 2009.
122	59.515	90.23	555.	1951. 2009.
123	60.015	90.24	555.	1952. 2009.
124	60.515	90.26	555.	1952. 2009.
125	61.015	90.30	555.	1952. 2009.
126	61.515	90.35	555.	1953. 2009.
127	62.015	90.27	555.	1953. 2011.
128	62.515	90.40	555.	1954. 2012.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MCFEET FIELD CALIF. 901 PRELIMINARY DATA

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 200 * GAS TEMP-PROBE MACH NO. 7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 8/8

FRAME NO.	PT (PSIA)	PT CELL (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROBE1	PROBE2
89	205.2	205.5	2052.	.9360	.9716
90	205.1	205.3	2051.	.9361	.9716
91	204.9	205.4	2051.	.9367	.9717
92	204.9	205.2	2051.	.9370	.9717
93	204.9	205.3	2052.	.9370	.9714
94	205.2	205.5	2052.	.9379	.9713
95	205.1	205.4	2052.	.9379	.9720
96	204.9	205.4	2052.	.9384	.9727
97	204.9	205.5	2052.	.9388	.9741
98	205.2	205.4	2052.	.9390	.9748
99	204.9	205.4	2052.	.9397	.9747
100	204.9	205.2	2053.	.9398	.9747
101	204.9	205.3	2053.	.9403	.9748
102	204.9	205.3	2053.	.9408	.9746
103	204.9	205.4	2053.	.9413	.9744
104	204.9	205.3	2053.	.9417	.9750
105	204.9	205.4	2053.	.9421	.9758
106	204.9	205.0	2053.	.9430	.9785
107	204.9	205.2	2054.	.9431	.9786
108	204.9	205.1	2055.	.9435	.9778
109	204.8	205.1	2055.	.9434	.9773
110	204.9	205.2	2056.	.9439	.9772
111	204.9	205.3	2057.	.9441	.9780
112	204.9	205.3	2057.	.9445	.9783
113	204.9	205.3	2057.	.9452	.9788
114	204.9	205.2	2057.	.9457	.9787
115	204.8	205.3	2056.	.9461	.9780
116	204.8	205.4	2057.	.9467	.9758
117	204.9	205.3	2056.	.9474	.9770
118	204.9	205.3	2057.	.9475	.9766
119	204.9	205.2	2057.	.9478	.9765
120	204.9	205.5	2056.	.9480	.9759
121	204.9	205.5	2056.	.9485	.9771
122	204.9	205.5	2057.	.9485	.9759
123	204.8	205.3	2057.	.9490	.9771
124	204.9	205.3	2057.	.9490	.9769
125	204.9	205.4	2057.	.9493	.9771
126	204.9	205.6	2056.	.9497	.9772
127	204.9	205.5	2056.	.9497	.9781
128	204.9	205.4	2056.	.9502	.9785

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOPFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 188 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 8/10

FRAME NO.	TIME (SEC)	STRT IN POS	TTR (R)	TEMPERATURE IN DEGREES RANKINE	
				TCT	TCT
129	63.015	90.39	555.	1955.	2011.
130	63.515	90.38	555.	1955.	2010.
131	64.015	90.37	555.	1955.	2009.
132	64.515	90.36	555.	1956.	2010.
133	65.015	90.36	555.	1956.	2010.
134	65.515	90.36	555.	1957.	2013.
135	66.015	90.36	555.	1957.	2013.
136	66.515	90.41	555.	1957.	2014.
137	67.015	90.45	555.	1959.	2017.
138	67.515	90.50	555.	1959.	2020.
139	68.015	90.56	555.	1959.	2020.
140	68.515	90.59	555.	1961.	2024.
141	69.015	90.58	555.	1962.	2027.
142	69.515	90.56	555.	1963.	2027.
143	70.015	90.50	555.	1964.	2025.
144	70.515	90.43	555.	1964.	2023.
145	71.015	90.37	555.	1964.	2023.
146	71.515	90.30	555.	1966.	2018.
147	72.015	90.27	555.	1966.	2017.
148	72.515	90.25	555.	1967.	2016.
149	73.015	90.25	555.	1967.	2015.
150	73.515	90.27	555.	1967.	2017.
151	74.015	90.30	555.	1968.	2017.
152	74.515	90.37	555.	1968.	2019.
153	75.015	90.40	555.	1968.	2020.
154	75.515	90.42	555.	1968.	2020.
155	76.015	90.42	555.	1968.	2020.
156	76.515	90.43	555.	1969.	2020.
157	77.015	90.42	555.	1969.	2019.
158	77.515	90.40	555.	1969.	2017.
159	78.015	90.39	555.	1969.	2015.
160	78.515	90.38	555.	1969.	2015.
161	79.015	90.37	555.	1969.	2015.
162	79.515	90.37	555.	1969.	2015.
163	80.015	90.38	555.	1969.	2015.
164	80.515	90.39	555.	1969.	2015.
165	81.015	90.40	555.	1970.	2019.
166	81.515	90.43	555.	1970.	2020.
167	82.015	90.46	555.	1970.	2020.
168	82.515	90.49	555.	1970.	2021.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETZ FIELD CALIF. PRELIMINARY DATA
 3.5 FT. HYPERSONIC WIND TUNNEL
 CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. -7.35 WEDGE ANG-D PROBE ANG-D

TEST 227
 RUN 8//

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
				PROB1 PROB2
129	204.9	205.4	2056.	.9509 .9782
130	204.9	205.5	2055.	.9512 .9779
131	204.9	205.6	2056.	.9512 .9776
132	204.9	205.4	2056.	.9514 .9779
133	204.9	205.5	2057.	.9511 .9774
134	204.9	205.5	2058.	.9507 .9779
135	205.2	205.3	2058.	.9506 .9781
136	205.2	205.3	2060.	.9503 .9778
137	204.9	205.5	2060.	.9508 .9791
138	204.9	205.3	2060.	.9511 .9805
139	205.2	205.5	2061.	.9512 .9804
140	204.9	205.4	2061.	.9513 .9818
141	204.9	205.3	2061.	.9520 .9833
142	204.9	205.1	2063.	.9515 .9828
143	204.9	205.1	2063.	.9517 .9816
144	204.9	205.3	2064.	.9519 .9801
145	204.9	205.4	2064.	.9519 .9799
146	204.9	205.4	2063.	.9529 .9785
147	204.9	205.6	2063.	.9526 .9774
148	204.9	205.6	2063.	.9532 .9772
149	205.3	205.6	2064.	.9530 .9770
150	205.5	205.6	2063.	.9537 .9776
151	205.2	205.6	2062.	.9541 .9793
152	205.4	205.7	2061.	.9546 .9795
153	205.2	205.7	2062.	.9546 .9799
154	204.9	205.7	2061.	.9549 .9800
155	205.1	205.5	2061.	.9551 .9800
156	204.9	205.4	2061.	.9552 .9799
157	204.9	205.3	2061.	.9555 .9796
158	204.8	205.4	2061.	.9555 .9788
159	204.8	205.4	2061.	.9554 .9785
160	204.9	205.3	2061.	.9555 .9781
161	204.9	205.2	2061.	.9557 .9781
162	204.9	205.4	2061.	.9556 .9780
163	204.9	205.3	2061.	.9554 .9782
164	204.9	205.4	2061.	.9556 .9781
165	204.9	205.5	2061.	.9558 .9790
166	205.2	205.4	2062.	.9552 .9793
167	204.9	205.6	2063.	.9550 .9793
168	205.4	205.5	2064.	.9549 .9794

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 8/13

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (R)	TEMPERATURE IN DEGREES RANKINE	
				TC1	TC2
169	83.015	90.53	555.	1971.	2025.
171	84.015	90.58	555.	1972.	2028.
172	84.515	90.59	555.	1972.	2029.
173	85.015	76.24	555.	1973.	2029.
174	85.515	47.65	555.	1974.	2032.
175	86.015	4.95	555.	1974.	2025.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227
RUN 8/14

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH /P (DEGR)	TT (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
					PROB1 PROB2
169	205.2	205.6		2065.	.9546 .9827
171	205.2	205.7		2067.	.9540 .9811
172	204.9	205.5		2067.	.9540 .9814
173	205.2	205.4		2067.	.9545 .9816
174	204.9	205.5		2067.	.9547 .9821
175	204.9	205.5		2067.	.9546 .9774

A * V * E * R * A * G * E V * A * L * U * E * S

205.0 205.4 0.00 (.00 2041. .858 .951

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.

0.000 0.000 .981 .968 .968

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION NASA RESEARCH CENTER WRIGHT-PATTERSON AIR FORCE BASE DAYTON, OHIO

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 GAS TEMP PROB. BATH NO. 9 2.500 ANG. 45 PROB. ANG. 0

DATE 11/27/57 TIME 9/1

FRAME NO. TIME STRUT TER (SEC) IN POS.

TEMPERATURE IN DEGREES RANKINE

3 .015 4.87 556.
4 .515 4.87 556.
5 1.015 4.87 556.
6 1.515 4.87 556.
7 2.015 4.87 556.
8 2.515 47.74 556.
9 3.015 47.74 556.
10 3.515 90.65 556.
11 4.015 90.69 556.
12 4.515 90.70 556.
13 5.015 90.72 556.
14 5.515 90.76 556.
15 6.015 90.77 556.
16 6.515 90.76 556.
17 7.015 90.78 556.
18 7.515 90.76 556.
19 8.015 90.76 556.
20 8.515 90.79 556.
21 9.015 90.70 556.
22 9.515 90.66 556.
23 10.015 90.63 556.
24 10.515 90.60 556.
25 11.015 90.56 556.
26 11.515 90.54 556.
27 12.015 90.50 556.
28 12.515 90.49 556.
29 13.015 90.47 556.
30 13.515 90.46 556.
31 14.015 90.45 556.
32 14.515 90.43 556.
33 15.015 90.43 556.
34 15.515 90.44 556.
35 16.015 90.43 556.
36 16.515 90.45 556.
37 17.015 90.44 556.
38 17.515 90.45 556.
39 18.015 90.46 556.
40 18.515 90.47 556.
41 19.015 90.48 556.
42 19.515 90.48 556.

549. 561.
549. 561.
549. 561.
549. 561.
549. 562.
550. 562.
574. 779.
639. 1106.
733. 1384.
856. 1595.
973. 1746.
1087. 1853.
1199. 1941.
1289. 1980.
1368. 2015.
1437. 2034.
1496. 2047.
1550. 2058.
1596. 2070.
1641. 2076.
1679. 2077.
1712. 2080.
1742. 2078.
1759. 2077.
1793. 2081.
1815. 2089.
1833. 2091.
1856. 2092.
1864. 2093.
1878. 2099.
1896. 2103.
1901. 2108.
1910. 2101.
1918. 2099.
1925. 2100.
1932. 2101.
1937. 2100.
1942. 2097.
1947. 2100.
1952. 2101.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETT FIELD CALIF. PRELIMINARY DATA

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG-D PROBE ANG-D

TEST 227

RUN 9/2

FRAME NO.	PT. CELL 2	PT. (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
3	1000.1	1006.6	2134.	.2575	.2629
4	999.8	1006.6	2133.	.2576	.2628
5	1000.1	1006.5	2133.	.2576	.2633
6	999.8	1006.7	2133.	.2576	.2632
7	999.8	1006.6	2132.	.2577	.2636
8	999.8	1006.4	2132.	.2579	.2638
9	999.6	1006.3	2132.	.2694	.3655
10	999.8	1006.1	2132.	.2998	.5185
11	999.6	1006.4	2134.	.3433	.6486
12	999.5	1006.3	2133.	.4011	.7476
13	999.6	1006.6	2132.	.4565	.8191
14	999.6	1005.8	2132.	.5100	.8692
15	999.5	1006.0	2132.	.5621	.9059
16	999.5	1005.9	2131.	.6048	.9293
17	999.5	1006.0	2129.	.6427	.9464
18	999.5	1006.0	2129.	.6749	.9553
19	999.6	1006.1	2129.	.7029	.9613
20	999.6	1006.2	2126.	.7283	.9670
21	999.5	1005.9	2128.	.7509	.9728
22	999.6	1006.0	2126.	.7710	.9754
23	999.4	1006.0	2127.	.7891	.9763
24	999.1	1005.7	2125.	.8059	.9791
25	999.0	1005.6	2124.	.8223	.9781
26	999.1	1005.7	2125.	.8327	.9777
27	999.2	1005.5	2126.	.8433	.9790
28	998.9	1005.3	2126.	.8537	.9828
29	998.9	1005.4	2125.	.8627	.9839
30	998.9	1005.5	2124.	.8713	.9853
31	998.9	1005.6	2123.	.8781	.9859
32	999.1	1005.9	2122.	.8851	.9894
33	999.3	1005.7	2121.	.8911	.9919
34	999.3	1005.8	2120.	.8965	.9942
35	999.0	1005.7	2120.	.9010	.9910
36	998.9	1005.6	2119.	.9052	.9905
37	999.1	1005.6	2118.	.9091	.9917
38	999.0	1005.7	2117.	.9126	.9924
39	999.5	1005.9	2117.	.9151	.9918
40	999.4	1005.8	2118.	.9168	.9899
41	999.5	1006.0	2118.	.9192	.9913
42	999.5	1006.1	2118.	.9216	.9922

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 ° GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG-0 PROBE ANG-0

TEST 227

RUN 6/5

FRAME NO.	PT. (PSIA)	PT. CELL 2 (PSIA)	PCH. TT / P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PRDB1	PRDB2
43	999.3	1006.0	2117.	.9239	.9947
44	999.6	1006.0	2116.	.9261	.9960
45	999.4	1006.1	2117.	.9278	.9960
46	999.1	1005.8	2119.	.9289	.9957
47	999.3	1005.7	2118.	.9309	.9958
48	999.0	1005.8	2118.	.9324	.9964
49	999.1	1005.9	2119.	.9330	.9959
50	999.0	1005.8	2118.	.9345	.9968
51	998.9	1005.8	2119.	.9355	.9954
52	999.1	1005.9	2120.	.9359	.9959
53	999.1	1006.0	2121.	.9365	.9964
54	999.3	1005.9	2122.	.9367	.9947
55	999.3	1005.9	2122.	.9366	.9949
56	999.0	1005.9	2120.	.9332	.9945
57	998.9	1005.7	2121.	.9296	.9925
58	998.8	1005.6	2122.	.9269	.9918
59	998.8	1005.4	2123.	.9250	.9901
60	998.7	1005.2	2121.	.9237	.9903
61	998.7	1005.3	2121.	.9227	.9939
62	998.6	1005.3	2121.	.9217	.9921
63	998.9	1005.5	2119.	.9222	.9944
64	998.8	1005.3	2118.	.9222	.9955
65	998.7	1005.4	2119.	.9218	.9951
66	998.8	1005.6	2120.	.9215	.9951
67	998.8	1005.5	2121.	.9211	.9944
68	999.0	1005.5	2121.	.9209	.9942
69	998.9	1005.7	2122.	.9208	.9941
70	998.7	1005.3	2122.	.9208	.9946
71	998.8	1005.3	2122.	.9207	.9931
72	998.7	1005.1	2123.	.9208	.9935
73	998.7	1005.3	2122.	.9213	.9926
74	998.7	1005.2	2120.	.9226	.9943
75	998.7	1005.3	2120.	.9230	.9968
76	998.6	1005.2	2121.	.9231	.9976
77	998.8	1005.4	2122.	.9229	.9970
78	999.0	1005.7	2122.	.9239	.9974
79	999.0	1005.7	2123.	.9238	.9970
80	999.4	1005.8	2125.	.9233	.9953
81	999.4	1005.9	2123.	.9245	.9952
82	999.4	1005.9	2122.	.9255	.9957

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION ARCS RESEARCH CENTER ROCKET FLYING TEST PREPARATION DATA

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=D PROBE ANG=D

TEST 221

RUN 10/

FRAME TIME STRUT FTR
NO. (SEC) IN POS (R)

TC1 TC2

TEMPERATURE IN DEGREES RANKINE

83 40.015 90.62 557.
84 40.515 90.72 558.
85 41.015 90.74 558.
86 41.515 90.77 558.
87 42.015 90.75 558.
88 42.515 90.76 558.
89 43.015 90.73 558.
90 43.515 90.72 558.
91 44.015 90.70 558.
92 44.515 90.66 558.
93 45.015 90.62 558.
94 45.515 90.58 558.
95 46.015 90.54 558.
96 46.515 90.53 558.
97 47.015 90.49 558.
98 47.515 90.45 558.
99 48.015 90.42 558.
100 48.515 90.41 558.
101 49.015 90.41 558.
102 49.515 90.40 558.
103 50.015 90.39 559.
104 50.515 90.41 559.
105 51.015 90.43 559.
106 51.515 90.46 559.
107 52.015 90.50 559.
108 52.515 90.53 559.
109 53.015 90.55 559.
110 53.515 90.56 559.
111 54.015 90.56 559.
112 54.515 90.56 559.
113 55.015 90.55 559.
114 55.515 90.54 559.
115 56.015 90.53 559.
116 56.515 90.52 559.
117 57.015 90.52 559.
118 57.515 90.52 559.
119 58.015 90.52 559.
120 58.515 90.53 559.
121 59.015 90.55 560.
122 59.515 90.56 560.

1964. 2113.
1965. 2115.
1966. 2118.
1968. 2121.
1969. 2121.
1970. 2121.
1972. 2119.
1972. 2121.
1973. 2120.
1974. 2126.
1976. 2125.
1977. 2127.
1979. 2131.
1981. 2139.
1984. 2146.
1987. 2151.
1989. 2152.
1992. 2148.
1993. 2141.
1994. 2140.
1996. 2137.
1996. 2137.
1996. 2132.
1996. 2123.
1996. 2129.
1997. 2136.
1997. 2141.
1999. 2141.
2000. 2137.
2000. 2134.
2001. 2134.
2001. 2137.
2002. 2140.
2003. 2141.
2004. 2139.
2004. 2139.
2005. 2142.
2005. 2143.
2007. 2142.
2007. 2139.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFET FIELD CALIF. PRELIMINARY DATA

3.5 FT HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE MACH NO. 7.35 WEDGE ANG-0 PROBE ANG-0

TEST 227

RUN 9/8

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO	
				PROB1	PROB2
83	999.4	1006.0	2125.	.9255	.9951
84	999.4	1006.1	2126.	.9256	.9949
85	999.3	1006.1	2127.	.9253	.9956
86	999.3	1006.1	2128.	.9248	.9956
87	999.3	1005.9	2128.	.9254	.9969
88	999.1	1005.8	2129.	.9257	.9955
89	999.0	1005.6	2130.	.9258	.9952
90	998.9	1005.8	2133.	.9249	.9947
91	998.9	1005.6	2134.	.9247	.9933
92	998.8	1005.4	2134.	.9253	.9962
93	998.6	1005.1	2132.	.9268	.9956
94	998.7	1005.1	2129.	.9289	.9995
95	998.5	1004.8	2127.	.9303	1.0017
96	998.8	1005.3	2127.	.9313	1.0053
97	999.0	1005.4	2128.	.9327	1.0086
98	999.1	1005.6	2128.	.9336	1.0138
99	999.3	1005.9	2128.	.9348	1.0111
100	999.1	1006.0	2129.	.9354	1.0083
101	999.1	1005.6	2131.	.9353	1.0048
102	999.1	1005.6	2128.	.9369	1.0054
103	999.1	1005.7	2127.	.9380	1.0046
104	998.9	1005.7	2125.	.9394	1.0058
105	998.9	1005.7	2123.	.9400	1.0032
106	998.8	1005.6	2122.	.9406	1.0005
107	998.8	1005.7	2122.	.9405	1.0030
108	998.9	1005.7	2123.	.9404	1.0059
109	998.8	1005.5	2124.	.9403	1.0081
110	998.7	1005.5	2126.	.9404	1.0070
111	998.6	1005.4	2127.	.9402	1.0048
112	998.7	1005.5	2124.	.9397	1.0025
113	998.8	1005.3	2129.	.9396	1.0023
114	998.6	1005.2	2129.	.9401	1.0039
115	998.8	1005.4	2128.	.9408	1.0056
116	998.8	1005.4	2128.	.9414	1.0062
117	998.7	1005.5	2127.	.9420	1.0051
118	998.9	1005.6	2125.	.9431	1.0065
119	999.3	1005.7	2125.	.9433	1.0079
120	999.3	1005.8	2126.	.9432	1.0079
121	998.9	1005.6	2127.	.9435	1.0070
122	998.8	1005.5	2126.	.9440	1.0062

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION RESEARCH CENTER MOFFETT FIELD CALIF. PRELIMINARY DATA

9.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 100 * GAS-TEMP-PROBE WACH NO. 27.35 WEDGE ANG-0 PROBE ANG-0

TEST 227

RUN 9/10

FRAME NO.	TIME (SEC)	STRUT IN POS	TTR (BT)	TC1	TC2	TEMPERATURE IN DEGREES RANKINE
123	60.015	90.57	560.	2007.	2139.	
124	60.515	90.57	560.	2008.	2143.	
125	61.015	90.57	560.	2009.	2147.	
126	61.515	90.57	560.	2009.	2141.	
127	62.015	90.59	560.	2010.	2145.	
128	62.515	90.70	560.	2010.	2146.	
129	63.015	90.71	560.	2011.	2146.	
130	63.515	90.74	560.	2011.	2145.	
131	64.015	90.77	560.	2012.	2146.	
132	64.515	90.78	560.	2013.	2149.	
133	65.015	90.78	560.	2013.	2149.	
134	65.515	90.79	560.	2013.	2141.	
135	66.015	90.78	560.	2013.	2142.	
136	66.515	90.79	560.	2013.	2141.	
137	67.015	90.78	560.	2013.	2142.	
138	67.515	90.78	560.	2013.	2143.	
139	68.015	90.77	561.	2012.	2145.	
140	68.515	90.77	561.	2013.	2146.	
141	69.015	90.73	561.	2014.	2151.	
142	69.515	90.73	561.	2015.	2150.	
143	70.015	90.72	561.	2015.	2143.	
144	71.515	90.70	561.	2014.	2139.	
145	71.015	47.71	561.	2014.	2142.	
146	71.515	47.71	561.	2015.	2144.	
147	72.015	4.97	561.	2016.	2136.	
148	72.515	4.96	561.	2017.	2124.	

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C-8

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER HOFFETT FIELD CALIF. *** PRELIMINARY DATA ***

3.5 FT. HYPERSONIC WIND TUNNEL

CONSTANT SET 160 * GAS-TEMP-PROBE MACH NO.=7.35 WEDGE ANG=0 PROBE ANG=0

TEST 227

RUN 9/11

FRAME NO.	PT (PSIA)	PT CELL 2 (PSIA)	PCH TT /P (DEGR)	PROBE / TOTAL TEMPERATURE RATIO
				PROB1 PROB2
123	998.6	1005.3	2125.	.9447 1.0066
124	998.8	1005.6	2124.	.9456 1.0079
125	998.9	1005.4	2122.	.9464 1.0088
126	998.8	1005.8	2122.	.9467 1.0089
127	999.0	1005.7	2121.	.9476 1.0115
128	998.9	1005.8	2121.	.9477 1.0115
129	999.6	1005.8	2122.	.9475 1.0111
130	998.9	1005.8	2123.	.9475 1.0104
131	999.1	1005.8	2122.	.9481 1.0112
132	999.3	1005.8	2121.	.9490 1.0134
133	999.4	1005.8	2119.	.9496 1.0137
134	999.4	1006.1	2119.	.9500 1.0137
135	999.1	1005.9	2118.	.9523 1.0116
136	999.3	1006.0	2117.	.9507 1.0115
137	999.0	1005.7	2116.	.9511 1.0123
138	999.1	1005.7	2115.	.9516 1.0134
139	999.0	1005.8	2115.	.9516 1.0147
140	999.0	1005.7	2115.	.9518 1.0144
141	998.9	1005.7	2115.	.9523 1.0168
142	999.0	1005.6	2115.	.9531 1.0168
143	998.9	1005.6	2115.	.9527 1.0130
144	999.0	1005.8	2115.	.9523 1.0110
145	999.0	1005.5	2114.	.9529 1.0130
146	999.0	1005.7	2114.	.9531 1.0140
147	999.1	1005.8	2115.	.9535 1.0100
148	999.0	1005.9	2115.	.9535 1.0042

A * V * E * K * A * G * E V * A * L * U * E * S

999.1 1005.7 1.00 (core) 2124. .863 .953

RADIUS(IN) 12. 9. 6. 3. 0.

AVERAGE TEMPERATURE IN 12 IN.DIA., 18 IN.DIA., 24 IN.DIA., 30 IN.DIA., 36 IN.DIA. CORE.

0.000 0.000 1.012 .981 .981

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